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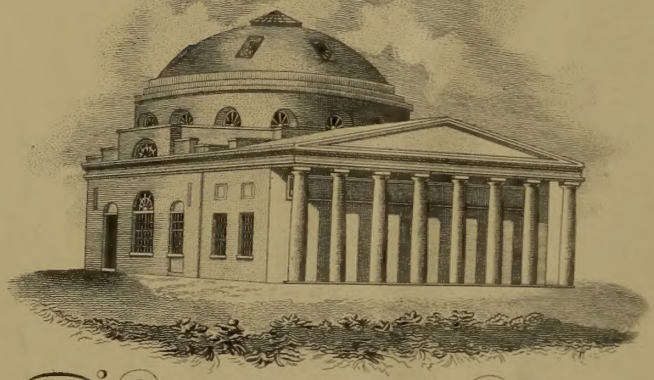

University of Maryland

University of Maryland Theses

Early Doctor of Medicine and Doctor of Physic Dissertations with Corrected Tables of Contents

These manuscripts described as either an Inaugural Dissertation or an Inaugural Essay were presented to the University of Maryland for the Degree of Doctor of Medicine and/or Doctor of Physic during the years 1813-1887. The individual dissertations were bound together during the 1940's. The original tables of contents for the bound volumes contained multiple errors in authors' names, titles, and/or years. To address these errors, an additional "Corrected Table of Contents" has been inserted at the beginning of each volume.

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UNIVERSITY OF MARYLAND

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McQuinn, William	Four Diseases Observed in the Baltimore Infirmary
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UNIVERSITY OF MARYLAND

THESES

1849 (c)

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(1) In "Register" and "Catalog" Cowman.

(2) "G.C." in Register and Catalog.

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An
Inaugural Dissertation
On
The Relation of Digestion to
Nutrition and Calorification

Submitted to the examination
of the
Provost, Regents and Faculty of Physic
of the
University of Maryland
for the
Degree of Doctor of Medicine
by
Sam'l E. Mace
of
Maryland

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In selecting a subject from the many that ~~are~~ presented by medical science from which to draw off a Dissertation that may meet the approbation of its examiners there seems about as much difficulty in making a choice as there is in the execution of that for which one is chosen. It might seem more in accordance with custom to choose from the list of special diseases and follow it out from its origin to its close, whether favourably or otherwise giving or trying to give an accurate description of its causes varieties, phenomena, Pathological appearances, and of the different modes of management and treatment that may be best adapted to ~~the~~ each and every shade and feature that it may from time to time be putting on. But for reasons not necessary to mention

-tion, it does not seem to me that such a procedure is altogether in compliance with the purpose for which a Dissertation is required. I have not, therefore chosen from the catalogue of special diseases but have rather preferred to consider some of those general causes and conditions which may determine to different diseases. Yet as it is necessary that there should be some limit to the field of my survey I propose to confine myself to the consideration of some of those circumstances which may give rise to affections of the digestive organs, and which result from an altered correspondence of action between them and the sources of demand made upon them. As a prelude to which I intend to examine, and therefore, as well as for convenience, entitle my theme The Relation of Digestion to nutrition and Calorification. But

shall not attempt any further elucidation of these Physiological actions ~~which~~ to be more minute than is just sufficient to meet the end of that which I am about. In doing which it can scarcely be expected that any thing new or different from that which has been acquired from the faithful teachings of those whose precepts tis fit that I should ~~follow can be~~ added in illustration of aught I have to offer

That we may be sensible of the necessities of the general system for more material for nutrition we are endowed by nature with the faculty of knowing our wants, not by any instinct, nor by reasoning power, but by an animal desire called appetite which we seek to gratify by resorting to the ingestion of food, which having undergone the proper mastication and insalivation, is

subjected in the stomach to the process of digestion; which consists in its being mingled with the gastric juice and so dissolved and otherwise changed as to allow of the separation from it of the nutritious particles from the innutritious during its passage through the length of the intestines. When those particles which are adapted to the wants of the system are taken up by the proper absorbents they enter, and are conveyed by, the general circulation to within the sphere of nutrition by which they are applied to the structures of the body by the property which every tissue has of adding to itself those elements which are required for and which enter into the formation of its own structures. Now that the operation of nutrition cannot go on without those of digestion and abs-

-ception prepare and furnish the requi-
-site material is a fact that needs but
be mentioned to be known. But I appre-
-hend that the reverse of this is also,
to some extent; sometimes true: or that
digestion has its dependences on nutrition

When the nutritive material in the
system is exausted and the tissues suffer
for want of support their condition is
experienced in the nervous system thro-
-ugh which and influenced is reflected
to the stomach by which that organ
is prepared to act upon that which
the appetite is demanding. When thus
prepared its condition is made known
to the common sensorium — and thus
is experienced the sensation of hunger
which, though referred to the stom-
-ach and may sometimes originate
wholly from the condition of that
organ, yet has its most usual and

proper origin in the seat of nutrition
-and the extent to which the stoma-
-ch is prepared to digest and the appe-
-tite excited, is equivalent only to the
demand set up in the general sys-
-tem for nutritive material
Now whatever increases or diminishes the
operation of nutrition must also increase
or diminish that of digestion. That
there exists to a certain extent a mu-
tual relation in their actions between
the organs of supply and those of dem-
-and and that whatever calls for in-
-creased nutrition enables the organs
of digestion to answer its requirements,
to a certain extent, without detrim-
-ent to their healthful condition are
facts that can be testified to by every
day observation
In opposition to the process by whi-
-ch the tissues are continually being

renewed there is also that going on by which they are as constantly being broken down and disorganized, and after which are removed from the system as matter no longer of utility, but if suffered to remain might exert an unwholesome influence. And whatever tends to increase the activity of this process, and whatever influence excites a tendency to augmentation back must also excite a livelier activity in the process of nutrition, in order, in the one case, to maintain the organs in their normal size and in the other to allow of their increased developement.

During the rapid expansion of the body in youth, when the organs are day by day advancing towards a fuller developement, we know that this cannot take place without there be added more material than

is lost by the rapid wasting of the tissues ~~than is lost by~~ during a life of youthful activity. And this material we see called for by a vigorous appetite and an equal digestion. But when the body has attained its full stature and nutrition has no other purpose to perform than to maintain it so, then is there an impaired appetite and a feebler digestion, which renders the stomach prone to feel the effects of every over indulgence in the pleasures of the table. The power to do has diminished with the occasion to do

Let now this man assume a life of increased activity, and as every contraction of a muscle insures a breaking down and disintegration of a part of its proper tissue, so will there be an increased demand for fresh material

out of which nutrition can replace that which has been destroyed and add even more, to enable the organs to perform the additional amount of duty imposed upon them. And as this greater supply is needed so is the appetite excited and digestion invigorated, without the organs subservient to it being effected by the increased labour they are subjected to, in properly disposing of a greater quantity of aliment. It is common to see the man of labour consuming an amount of nutritious food that no one of indolent habits would dare place upon his stomach without subjecting himself to great risk of incurring some gastro enteric affection. That there is a power in the living system of adapting itself to the exacts it has to meet is well enough exemplified by those local increases of tissue where

augmented function is followed by augmented bulk and power to perform
In the muscles of the arm of the boxer, for instance in those of the legs of the opera dancer, and in the muscular coat of the bladder or the heart, in order to overcome impediments offered by enlarged prostrate or stricture in the one case and by diseased valves or constricted aorta in the other. And just as increased demand in a part meets with an increased supply from the general system, so may an increased demand in the general system meet with an increased supply from the external world through the medium of those organs which are subservient to its uses
There is another no less important function performed in the animal system intimately associated with

that of nutrition in the fact that it takes place throughout the whole sam-
-ification of the arterial system and that it depends chiefly upon the quantity and quality of the matter that has been acted on by the organs of digestion and of absorption. This that of Calorifica-
-tion. and whether the elements of the matter absorbed combine directly with the oxygen of the air taken in by res-
-piration or are first received by the cells of nutrition and then given back in a state perhaps, more ready to enter into chemical combination the end is the same and is equally attained. It is well known that dur-
-ing the cold season of winter the quantity of food consumed by each in-
-dividual is greatly superior to that during summer and that the quality is dif-
-ferent. Yet the organs of digestion and

less apt to become deranged in their actions than they are when the external temperature is such that there is less occasion for the generation of heat within the system

The same circumstances which call for an increased quantity of aliment, also call for and render acceptable, that of a more nutritious and stimulating quality. While he whose table and lounge follow each other in regular succession in sharing his cumbersome company, finds it consistent with health to make use of those articles of food only, which yield but a small portion of their bulk to ~~take~~ ~~purposes~~ for which food is required, he whose daily engagements consist in active exercise, whether in labour or the pursuits of pleasure, ~~experiences~~ no inconvenience in the regular ingestion

of an equal amount which is far richer in those elements which enter into the composition of the animal tissues. And so with a change of season is there a change required in the quality of our aliment.

Whilst during the warmer months of spring and summer our appetites prompt us to partake of a diet composed principally of vegetables and fruits the colder ones of autumn and winter warn us through that same monitor of a necessity for one of a different character. In answer to which we resort to the animal kingdom and to those vegetables which abound more largely with those elements which answer best the purposes of calorification. And as a change in the quality of the food we consume accompanies a change in the temperature

of our climate, so do we find this distinctive feature marking the habits of individuals living in climates of different temperatures. Whilst the furr covered Greenlander can make a repast upon the fattest part of a seal and drink & with relish the oil obtained from the blubber of the whale, the linen clad inhabitant of the south finds in the vegetable kingdom all that his keenest appetite can desire or his cayenned stomach digest

As an evidence that the appetite indicates and the stomach approves and acts upon the quality of the food proper to be taken we find in the substances desired the chemical constituents which theory supposes best to answer the processes going on within the system Thus that which is desired by, and

best fitted for, the inhabitants of tropi-
-cal climates is composed principally
of vegetables which yeild to chyme-
-fication and chylification only those
azotized compounds which are chiefly
useful for nutrition, while he who
dwells more towards the polar regions
delights only in those articles whi-
-ch serve not only the purpose of nu-
-trition, beats, being largely proportioned
with those elements that by a proce-
-ss similar to combustion throughout
the circulatory system generate the
requisite amount of animal heat
The material of his sustenance is there-
-fore more fully proportioned with
that obtained from the animal king-
-dom, for this sort of food, particularly
the fatty portions, contains a quantity
of carbon and hydrogen which become
free to combine with the oxygen of

the blood and thereby to produce the proper calorification

What has been thus far stated holds good only as a general rule, for there are many exceptions to it and many circumstances that may break in upon and disturb this correspondence of action. In the first place the habit of eating a certain amount, which might have been required under the circumstances by which it was established may still be persisted in, even though there should remain no other occasion for it than the gratification of an unaltered appetite, or an idea that so much must be taken whether there be any occasion desired for it or not. The appetite may sometimes be bribed to desert its trust and enticed to crave more than a sufficiency, by the

very attractive style in which culinary art can prepare the articles to be palmed upon it, or be effectually cheated by eating at an unusually rapid rate and thus permit the stomach to be overburdened before it has had time, as it were, to appreciate the quantity taken. Then too that organ may retain an amount of vigour disproportioned to the demands made upon it, or be stimulated to excessive action by which more material is forced into the ~~system~~ circulation than the actions of the system ~~require~~. Then, on the other hand, it may be deficient in energy, either absolutely or relatively to the digestibility of the substances taken, in consequence of general debility, of a deprivation of a necessary amount of excitement as when the

nervous influence is called off by in-
-tense moral emotions, by excessive ~~ma~~
mental application or violent muscu
-lar exertion. Or of a diseased condition
of its own structures - Or of any of the
causes which figure in the list of
the causes of indigestion It is by
the existence of some of these except=
-ions to the rule of relation of diges-
-tion to the necessities for it, that
arise many of those conditions that
may result in various diseases
Thus the individual who accustoms
himself to regular and sufficient exer-
-cise and to the consumption of an
amount of food just sufficient to satis-
-fy his appetite, rarely experiences any
inconvenience in its digestion But
if he changes from activity to indo-
-lence while previous habits of eating
are adhered to, there not being

that expenditure in the system, and consequently not that necessity for material to counteract its effects, that necessarily accompanied a previous custom of exercise, the stomach, feeling less the stimulus of necessity from the seat of nutrition, acts with lessened energy and allows its contents to pass through the bowels imperfectly digested and crude, an effectual source of irritation to the mucous membrane. The individual, as a consequence, sooner or later meets with a just retaliation from the effects of a sickened and perhaps, permanently weakened stomach, and from irritated or inflamed bowels

Thus too when the stomach continues to act with its usual and natural vigour either by natural or artificial stimulation, an undue quantity of

nutritive and colorifying material is urged into the circulation which finding no healthful purpose to which it can be applied, expends itself perhaps, in such a manner, as to exert a deleterious influence towards the system. And then, on the other hand should, from any cause the stomach be unable to answer fully to the requisitions made upon it, there must as a consequence, follow emaciation, exaustion and debility which combined with the irritation in the alimentary canal, predisposes the system to attacks of disease from without, or to fall a prey to its own disturbed and faulty actions

So too if the inhabitant of a northern latitude change his residence to some more high tempered climate

where the necessity for self generated heat no longer exists to the same extent as before, and his appetite remains unchanged, or, if failing he resort to condiments and wine to excite it, the system overburdened, ~~and~~ stimulated with calorifying material makes less urgent calls upon the organs of digestion which act, per consequence, with feebled powers, and there necessarily follow the same results as when nutrition was less active from lessened bodily activity. But should digestion continue unimpaired, or be stimulated and forced there is urged upon the system a quantity of hydrocarbonous matter, excessive over that which is required to meet the purposes of calorification, which not being carried off through the lungs, in consequence of diminished respiration, has to be ex-

eliminated through some other outlet, and as the liver holds an inverse re-lation to those organs, it is called on for the performance of an extra amount of labour in ridding the system of these now superfluous substances. The result is that there follow, ere long, some of those biliary affections which are common to individuals living in tropical climates;— especially those who have removed from colder ones there

Thus the Englishman, though stout with health from a custom of pre-vious good living, after residing for a while in the East Indies, where his habits of dining on roast beef and egg-pudding, with that of setting them well with a goodly portion of some agreeable stimulus, have been adhered to, soon finds himself the

subject of disease in his alimentary canal, complicated with perhaps, ~~and~~ sustained and aggravated by incurable hepatic affections. For certain it is when the liver is a seat of disease, whether organic or functional the stomach and intestines can scarcely escape the effects of a stagnated and congested portal circulation or of secretions either increased, diminished or perverted

Thus too, with the sturdy son of Northern America who ventured as a soldier into the hot climates of Mexico and exchanged his wonted habits of regular physical exercise for the indolent lurkings necessary upon long encampments, where to say nothing of the ill effects arising from its indifferent quality, his food imperfectly digested and inta-

-ting and his lived becoming organical-
-ly or functionally diseased, or as is most
likely, both, slowly yet effectively in-
-flicted such deep lesion upon the
mucous membrane belonging to the ali-
-mentary canal, as to destroy entirely
its healthy condition and actions and
to plead it often beyond the power
of nature or art to restore to its origi-
nal state. So originated, in many
instances the great predisposing cau-
-se if not the sole one of those horri-
-ble intestinal diseases, that when
once rooted may despite all the means
that science could conceive of or art
devise frequently marched obstinately
onward to the death of their victims

An inaugural Dissertation
on Tetanus,
Submitted to the examination
of the
Provost, Regents and Faculty
of Physic
Of the University of Maryland
for the degree of
Doctor of Medicine,
by Wm. J. H. Newman.

February 5th 1849.

Tetanus.

From the days of Hippocrates down to the present Tetanus has been considered one of the most formidable of the spasmodic diseases. It is made known by tonic spasms and by long continued painful contractions, or in other words by cramp of the voluntary muscles of various parts or of nearly the whole body. Many names have been conferred upon the tetanic condition according to the obvious effects of the spasms. When it produces a closure of the jaws, the affection has been called trismus; when the body is curved backwards so as to rest on the occiput and heels then it is denominated opisthotonos; when forward emprosthotonos; when to one side pleurosthotonos. These conditions are now treated as mere diversities of the same disease. Tetanus has been divided into the idiopathic and symptomatic; the former independant of any other known pathological condition, the latter produced by some other distinct affection existing within or without the spine. The symptomatic variety when

originating in wounds or any external injury is called Traumatic tetanus. Writers of the present day include under the title of idiopathic tetanus all cases which are not traumatic. There is also another distinction of tetanus into the acute and chronic; the former arriving suddenly and soon terminating generally affecting the whole body, and being often fatal, the chronic being of less intensity, and of longer duration; usually partial in its extent and mostly terminating in recovery. Symptoms. In general the patient first complains of stiffness and pain of the neck and jaws, as if it proceeded from a cold; and his countenance has a strange expression, having the appearance of a painful smile, which is caused by the distortion of the corners of the mouth and eyes and by the spasms of the facial muscles. He finds also that he is unable to open his mouth with the same facility. In a very short time the jaws close; in some cases by degrees, but with

great firmness; sometimes suddenly and with a snap. Accompanying this symptom or very soon after it the muscles concerned in swallowing become affected; and after the elapse of a short time then comes on what is often the most distressing part of the dis-order, an acute pain in the lower part of the sternum piercing through to the back. This depends upon the cramp of the diaphragm. The pain is agravated by paroxysms; and each paroxysm of pain is attended with increased contraction of the other parts which are implicated. The spasms extend to the muscles of the trunk and limbs, rendering them completely fixed and rigid. The abdomen feels remarkably hard; there is obstinate constipation and frequently difficult micturition from the spasms of the perinæal muscles; and the last of all extends generally to the muscles of the tongue hands and fingers; but frequently the muscles

of the hands and wrists escape altogether. All the muscles involved from the time when they are first affected to the time when the disease is relieved, or the patient dies, they continue in a state of contraction, and are swelled and hard in their centers. The jaws can never be completely open and the muscles of the abdomen are so rigid as to make it as hard as wood. Sometimes it is said that the spasms are observed to give way during sleep and also the muscles relax; but it is very seldom that the patient is able to sleep. If the patient is awakened; at that instant the full tension of the muscles return. All the contractions are accompanyied with intense pain. The pain such as is experienced in the cramp of the leg is felt almost throughout the whole body. The pain is worse during the exaserbations, and that experienced at the sternum is the most complained of. The contractions are so violent that the

teeth have been broken; an in some instances the femur has been broken by the severe action of the femoral muscles. The rectus muscles of the abdomen have been rent asunder also in some cases. Although the muscular system is so much disturbed there is generally very little derangement of other functions of the body. The pulse and respiration are more frequent, and sweats sometimes break out during the exaserbations from the severe pain and anxiety then felt. When the case is about to prove fatal the pulse become quicker and feebler, and the sweat is cold as is seen in other instances of approaching dissolution. What is much more strange, is that the mind is unaffected. Delirium and coma or disturbances of intellect are rarely met with. These symptoms if they appear at all come on near the close of life. Death occurs from spasms of the glottis or immobility

of the respiratory muscles, or from exhaust-
-ion of the vital powers or through excessi-
-ve nervous excitement and want of nou-
-rishment, or perhaps from a spasmodic
seizure of the heart. When recovery does take
place it is slow and gradual. The spasms
cease in violence and frequency, the rigi-
-dity relaxes and not unfrequently the
patient experiences a sense of fomicat-
-ion in the limbs as the muscles come
again under the control of the will. Cur-
es sometimes take place in a week; but
very often the disease runs on for months.
A small degree of stiffness often remains
after the patient is considered well. It is
said that the idiopathic variety of tetanus
is that which takes on the protracted
form. This disease is sometimes comp-
-licated with other affections. Epilepsey
assumes something of the tetanic char-
-acter; and we have accompanying it more
or less extensive tonic rigidity of the

muscles. Hysteria too is now and then associated with tetanic symptoms. There is an exceeding fatal variety of tetanus known by the name of trismus nascentium; it is very formidable among the negroes of the West Indies and in some of our Southern States it is experienced to a great extent among the coloured population. This disease is almost wholly confined to the blacks, the white population being seldom affected with it. The attack comes on usually within the first week from birth and has scarcely been known after the second week. It is attended with spasmodic closure of the jaws, and sometimes other muscles are affected. It is ascribed to irritation arising from the cutting of the cord as dissection has generally revealed ulceration in the umbilical vessels. Anatomical character. Some who have examined the brain and spinal marrow declare that they have not discovered any material

traces of disease, either in the one or the other of those organs. Others on the contrary affirm that they have seen diseases of these organs. In many instances they say there is increased vascularity of the membranes of the spinal cord, sometimes with and sometimes without effusion of serum; but more seldom the same appearances have been found in the cranium. Small bony or cartilaginous plates have been repeatedly found in the cranium beneath the spinal arachnoid; and these are considered to have some agency in the production of the disease; but they are often wanting. The nerves involved in the wound and proceeding from it towards the spine, have been found lacerated, reddened, thickened and softened or otherwise variously altered; but the same thing has been found in wounds not attended with tetanus. Sometimes other

occasional phenomena noticed after death have been rupture of the muscles. The heart has been known to be greatly demimished in bulk.

Some peculiar predisposition is requisite to produce tetanus; as but a few who are exposed to the exciteing causes are attacked with it. Tetanus may be caused by wounds and external injuries of every kind but more particularly by lacerated wounds, punctured wound, wound of the hands and feet and gunshot wounds, compound fractures, compound dislocations of the thumb and wounds irritated by foreign matters or in which nerves are exposed. Tetanus occurs at no fixed period after the infliction of an injury. Cases have been known to come on immediately after the reception of an injury. Terror is thought to have a great deal to do with such cases. As a general rule tetanus makes its appearance

between the fourth and fourteenth day after the infliction of the injury; about the time when the wound is nearly healed. But the longer the disease delays its assaults in these traumatic cases after the reception of a local injury the milder in general it proves, and there is some room for thinking that it will end favourably. Long continued prevalence of heat seems to favour its production; for the disease is more frequent between the tropics than in cold or temperate lattitudes. When the disorder arises from exposure to cold and damp, it comes on much sooner; often in a few hours. If the person is exposed to cold during the night complaint may begin to make itself known the next morning. Notwithstanding tetanus is excited by a wound independently of any exposure to cold or by cold without any injury, there is strong grounds

for supposing that in many instances one of these causes alone would fail to produce it, while both together will cause it to be brought into action. Other irritations besides those caused by wounds may occasion the disease. It has arisen from calculi in the bladder, intestinal worms and sometimes from a dead fetus in the uterus. Nux vomica and its preperations in poisonous quantities produce effects that cannot be distinguished from tetanus. Little doubt now exists that the spinal marrow including the medulla oblangata is the proper seat of tetanus. The muscles are not the residence of the disease, which is proved by the instant cessation of the spasms when the nerve by which it communicates with the spine is divided. The phenomena are best explained upon the principal that the disease is a

mere irritation of the spinal marrow including the medulla oblongata and to some extent the cerebal fibres. The irritation may be propagated from the injured extremities of the nerves as in wounds; or it may arise in the spinal marrow itself, through causes acting on that structure. The irritation thus excited in the medullary columns is propagated to the muscles and produces tetanic spasms. How it is possible that the nerves of the wounded part should remain in a state of peace for some time frequently until the wound is nearly healed is a mystery. It is reasonable to consider that the upper portion of the column is first and most seriously irritated, as it is in the parts of the body supplied with nerves from that region that the spasms are first produced and are most violent

as in the face and back of the neck and muscles of the chest. In the diagnosis of tetanus there are only two diseases which it is likely to be confounded with; hydrophobia and hysteria, both of which put on sometimes the tetanic character. Tetanus resembles hydrophobia in the difficulty of swallowing and the spasms being excited by external stimulents; but it may be distinguished by the spasms being continuous and the patient in general sensible and calm to the last. Whilst in hydrophobia the patient is mostly delarious with a wild expression of countenance. Strychnia or its salts in poisonous doses (according to Dr Wood of Philadelphia) cannot be distinguished from tetanus; unless you are acquainted with the history of the patients condition, or know such salts has been taken by him.

The prognosis of traumatic tetanus is exceedingly fatal and very few cases of recovery have been known. Perhaps a great many cases that we see reported in the journals to have ended favourably are of idiopathic character and not of the traumatic. The idiopathic form of the disease is much less fatal and is generally curable. When the case is going to end favourably the symptoms are mild from the beginning and there is relaxation between the paroxisms. But when unfavourable the muscles are rigid breathing is difficult and the pulse frequent. For the treatment of tetanus many things have been recommended, many of which are altogether useless. The first thing to be done is to remove all sources of irritation and to lessen the spasms. The treatment locally should be to remove all foreign bodies from

the wound, and if their be any puf
to let it out; in the beginning if we cons=
=ider that a nerve is partialy divided
or that a tendon is on the streach
they should be divided. The part then
to be fomented with a warm decoc=
=tion of opium and the part to be
covered in a large soft pollice. The
main nervous trunks have been
divided at some convenient point
above the wound, and has met wi=
=th success in subducing irritation.
It has been recomended to apply a bli=
=ster to the wound when it has ceas=
=ed to suppurate or stimulating oin=
=tments. Amputation has been recom=
=ended sometimes it has been succe=
=ssful; but very rarely; in most cases
however it has aggravated the symp=
=toms; and as it is accompanyed with
so much danger it is thought best
not to perform it unless desireable

for some other reason beside tetanus. The constitutional remedies that have been employed in tetanus are exceed=ingly numerous. Purgatives are most always beneficial; because there is most always constipation of the most obstinate character. At the begin=ning of the malady xx gr. of calomel mixed with lard should be given. This should be followed by a dose of turpentine and castor oil. Enemi=ta of the oil of turpentine should be administered until the bowels are unloaded. The cases that forbid the employment of purgatives are previous diarrah and disease of the alimentary canal. Mercury given in doses so as to produce salivation has cured many cases of tetanus; two or three grains of calomel may be given every two or three hours; of what will cause ptyalism sooner is mercurial ointment

rubed on the extremities in large quan=tities. When there is inflamation and when the pulse is tense and there is any suspision of spinal inflamation bleeding should be practised. In such cases bleeding is intended to subdue inflamation, which is aggravating the tetanic system. Blood should be taken from the arm freely, and by means of leaches or cups from the spine. But bloodletting is entirely uncalled for in simple tetanus and if practised it will probably prove highly hazardous. Tobacco is more highly recomended and perhaps has proved more efficasious than any other remedy. Enema of tobacco given after the bowels are cleansed or in urgent cas=es without waiting for an evacuation is strongly indicated. It in a short time brings on cold perspiration, fainting, and the most deadly sickness, the muscles are soon relaxed and sleep soon

follows. The enema should be repeated just often enough to keep the muscles relaxed all the time. Great caution should be taken to keep up the strength of the patient by giving him hot stimulents such as brandy and water. Opium has gained much reputation in the cure of this disease and it has perhaps effected many cures, it should be given in solution. It is sometimes a difficult matter to introduce medicin by the mouth as the jaws are so firmly closed by the spasmodic contraction of the muscles. Some authors say the mouth ought to be opened by levers; and others say a tooth ought to be extracted for to make a passage for the introduction of the medicin and food; but this ought not to be practised, according to the best authorities. Nourishment and medicin may be carried into the fauces and into

stomach by means of a tube; and this may be carried through the nostrils or through the mouth by taping it between the jaws behind the back teeth. The warm bath is often very efficacious in tetanus. I knew a case that was cured by means of this application. The patient was a large negro man who by some means or other stuck a thorn into the bottom of his foot a medical attendant was sent for and he extracted the whole of the thorn as he thought in the first instance; but in a few days tetanic symptoms made their appearance and he probed the foot and found another piece of the thorn which proved to be all. The patient was suffering severe tonic spasms at the time. The medical attendant had time immersed in a hogshead of hot water; the muscles became

relaxed in a short time; and from that moment the patient commenced to recover, and in a few weeks was well. The cold bath has been much more highly recomended than the warm bath. But it has been proved if it does no good it will certainly do harm. Tonics especially muriated tincture of iron and sulphate of quinia are of great service in cases attended with debility. Wourali is a poison that has been thou-ght to be succesful in many cases of tetanus. It acts on the brain suspending sensibility and voluntary action and causing death by asphyxia. But the heart continues to beat for a short time after this apparent death, and if respiration be kept up artificially, so as to keep the blood pure, the heart will continue to beat, and after a while the nervous system will recover its suspended facultiies and the patient recovers.

The poison should be introduced into a small wound in the finger, a ligature placed above so as to regulate its introduct=ion into the system; it acts in a few sec=onds and as soon as appearant death ens=ues artificial respiration should be kept up continually until signs of life appear. But this treatment is only justifiable in hopeless cases. Chloroform has also been recommended very highly in this disease and there can be no doubt but what it has cured many cases; yet as this medicin has not been long known to the profession it requires more experience to prove that it is a specific in the cure of tetanus. Chronic tetanus should be treated by aperient tonics and the shower bath. The bowels should be kept freely open. The treatment for trismus infantium is calomel in small doses followed by castor oil so as to clear out the bowels; minute doses of laudanum every two hours afterwards this

appears to be the best treatment; this form of disease is exceedingly fatal.
With these remarks I conclude what I have to say upon the symptoms and treatment of Tetanus.

An
inaugural dissertation
on
Generation
Submitted to the examination
of the
Provost, Regents and Faculty of Physic
of the
University of Maryland
for the degree of Doctor of Medicine
by
D Cushing Lovett.
of Baltimore.
Maryland.

2

Generation.

Generation, denotes the act of procreating, or producing a thing which before was not; or, the total change or conversion of a body into a new one which retains no sensible part or mark of its former state.

The disciples of Arestotle explained generation to be a change or passage from a privation, or want of a substantial form, to the possesing of one. The moderns allow of no other change in generation, than what is local: according to them, it is only a transposition, or new arangement of parts, and thus the same matter shall successively undego an infinity of generations.

A grain of wheat is committed to the ground, this imbibing moisture from

the soil, becomes turgid and dilates to such a degree, that it is termed a plant; and by a continual accession of matter, ripens into a ear, finally new seed are formed. This seed ground in the mill, appears in the form of flour, which mixed with water, makes a paste whereupon the addition of yeast, fine & head is generated.

Now, in all this series of generations, the one thing affected is a local motion of the parts of the matter, and their settling again in a different order; so that in reality, wherever there is a new arrangement or composition of elements, there is a new generation: and therefore generation is finally reducible to motion.

Generation is now understood as the production of animal and vegetable bodies from seed, or the coition

of others of different sexes, but of the same genus or kind.

Some modern naturalists maintain that there is not properly any new generation, that God created all things at first, and what we call generations are only augmentations and expansions of the minute parts of the bodies of seed; so that the whole species to be afterwards produced, were really all formed at first and enclos'ed therein; to be brought forth and disclosed to view in a certain time, according to a particular order and oeconomy.

The manner in which the seed of the male animal acts on the female in order to impregnate, and render it prolific has long been enquired after, but remains still a mystery.

There are two principle theories

of accounting for the generation of animals; the one supposes the embryo, or foetus, to be originally in the seed of the male; the other in the ovum or egg of the female.
The first imagines the animalcules found in the male seed to be the first rudiments of the foetus; and the office of the female is to furnish a proper nidus, and nutriment to bring them forwards.
The second thinks the first rudiments of the animal are to be found in the ova, and that the male seed only serves to warm, cherish and ripen the ova, till they fall out of the ovary into the womb.
Dr Harvey was of the opinion that all females are furnished with eggs; and generation is effected wholly by means of the uterus; which contains

the foetus by a sort of contagion communicated to it by the seminal fluid of the male, much in the same manner as the loadstone imparts magnetism to iron.
This contagion he supposes acts not only on the uterus, but the whole body of the female, which is altogether prolific; though he acknowledges the uterus is the only part capable of conceiving the foetus, just as the brain is the only organ capable of forming ideas and notions.
This ingenious physician and naturalist maintains that the prolific fluid of the male neither does nor can enter the womb of the female; but, it has actually been found in the matrix of the cow sixteen hours after copulation; and the celebrated Ruysch, having

dissected a woman who was surprised in adultery and assassinated on the spot found a great quantity of the seminal fluid of the male not only on the womb, but also in the tubae uterii. Other mistakes into which Prof Harvey has fallen through the imperfection of the microscope in his time, notwithstanding his accuracy and diligence in observation; has been detected by Malpighi, Leeuwhoek and others.

The first part of the chick, which is discovered by the naked eye is the punctum saliens, and that not untill three days and nights of incubation are past; on the fifth day the rudiments of the head and body appear. This made Harvey conclude that the blood had a being before any

other part of the body and that from it all the organs of the foetus were formed and nourished: but, by Malpighi's observations it appears, that the parts are only extended, which enables them to be seen by the naked eye; and that they actually existed before, and were discernable by glasses. After a farther lapse of thirty hours, we see the head, eyes, and spine, with the vertebrae distinct. At the termination of fourty hours, its pulse is visible; and all the other parts more distinct, which cannot be discerned by the naked eye till the fifth day; from whence it seems probable, that even the so early discovery of those parts by the microscope is not the discovering of organs newly formed, but only those more enlarged by receiving nutriment from the colliquementum, so that

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~~that~~ they seem all to have existed before the incubation of the hen.

And what Swammerdam has discovered in insects, gives no small light to this; since he makes it appear that in those large eruca's which feed on cabbage, if they be taken about the time of retiring for transformation into aurelias, and plunged in warm water to cause the rupture of the outer skin, you will discern through the transparency of the second membrane all the parts of the butterfly, the trunk, wings and feelers folded up.

From the analogy between plants and animals, all vegetables, we see, do proceed ex plantula; the seeds being no other than little plants of the same kind folded up in coats and membranes. Whence we

may infer that so curiously an organised creature as an animal, is not the sudden product of a fluid, but does much rather proceed from an animalcule of the same kind and has all its little members folded up according to their several joints and placatures, which are afterwards ~~and~~ distended as in plants.

There are observed innumerable animalcula in the male semen of all animals. We observe the rudiments of a foetus in eggs which have been fecundated by the male; though no such thing is visible in those not yet fecundated.

The resemblance between the rudiments of the foetus in ova, both before and after ~~impregnation~~ incubation makes it very probable that they are the same. Whence Dr Harvey acknowledged that all animals even the most perfect were formed of a

worm. This gives a rational account of many fœtuses at one birth, and how at least a whole cluster of eggs in a hen are fecundated by one coition of the male. This gives a new light as it were to the first prophecy concerning our Savior that the seed of the woman should bruise the Serpents head all the rest of Mankind being ~~xxxxx~~ more properly and truly the seed of man.

The analogy already mentioned which we may rationally suppose exists between the manner of the propagation of plants and animals does likewise make this probable. Every herb and tree bears its seed after its proper kind which seed is nothing else than a little plant of that kind, which being thrown into the earth as into the uterus spreads forth its roots and receives nourishment, but has its form within itself. We may

rationally conjecture some such analogy in the propagation of animals. It is acknowledged that the foetus in utero for some time after conception has no connection with the womb, that it is wholly loose, and is no other than a little round egg with the foetus in the midst; which sends forth its umbilical vessels by degrees, and at last lays hold of the uterus.

Now from hence it seems evident that cicatricula, which is the fountain of the animalcules nourishment does not sprout from the uterus, but has its origin elsewhere, and falls in thither as into a fit soil, from whence it draw nourishment for the growth of the foetus; else it cannot be easily imagined how it should not have immediate connection with the uterus from the time of conception. It is indeed difficult

to conceive, how these eggs should be impregnated per semen maris, both because there is no connection between the fallopian tubes and the ovary for its transmission; and because Dr Harvey could never discover any thing of it in the uterus, but as to the last Mr Leuenhoeck has cleared the difficulty by the discovery of innumerable animals in the tubae or cornua uteri, and those living a considerable time after coition. But as to the former we may either infer that there is such an inflation of the tubae, at the time of coition as makes them embrace the ovaries; and such an approach of the uterus and its cornua, as that it may easily transmit the seed into the ovary; or, that the ova are impregnated by the animalcules after they descend into the uterus

and not in the ovary. The former seems probable for the reason that at least a whole cluster of eggs will be fecundated by one tread of the cock; now this fecundation seems to be in the vitellary, and not in the uterus, as the eggs pass along from day to day; for it can hardly be supposed that the animalcules should subsist so long, being scattered loosely in the uterus as to wait there many days, for the fecundation of the eggs as they pass along. The latter conjecture has this to strengthen it, that the animalcules are found to live a long time in the uterus; and that if they should impregnate the ova in the ovary itself, the foetus would increase so fast that the ova would not pass through the tubae uterii, but would either burst the ovary or fall down in the

abdomen, from the orifice of the tubes; and from hence probably proceed those extraordinary conceptions in the abdomen out of the uterus.

The retainers of this system of generation ab ova contend that the rudiments of the foetus are laid in the ovary, and that the female furnishes the whole matter of the body, which they chiefly support from the conformity in rabbits, sheep, cows &c; then the vagina of the womb is so long and sinuous that it is scarcely possible the male seed should ever arrive within the body of the uterus; especially in cows whose vagina is filled with a thick viscid ichor, and the inner orifice of the womb is exactly closed, besides that; the thickness of the membranes of the ova would seem impenetrable to the male seed.

Add that if animalcula be found in the male seed, however which will

admit of some dispute, and that it is highly improbable that those animalculæ should contain the rudiments of a future body, since their large numbers would produce too plentiful an offspring insomuch that it would be necessary for 9999 parts of them to be useless, which is contrary to the economy of nature in other things.
There is a difficulty which seems to press equally against each system taken singly it arises from monsters,
In a mule for instance, which is the production of a venereal copula between an ass and a mare; the bulk of the body partakes of the form of the dam, and the feet, tail and ears of the sire. Hence it is argued that the rudiments of the greater part of the foetus are laid in the ovum; and that the impregnation either conveys or changes the extremities.
If the male supplied the animalculæ the foetus should always be of the same species

as the male; if the female supply it, it should be of her kind; whereas monsters are of both.
Mons de Buffon is of belief that these pretended animalcules are not future animals of the species of the father, he does not even allow them to be true animals, but says they are something of an intermediate nature; parts organized and animated the assemblage of which forms the foetus.
But the chief difficulty consists in conceiving how the foetus is formed from these elements. He thinks, that every part, both of animals and plants contain an infinite number of organized molecules, but that they are much more numerous in the seminal liquor of both sexes, and in the seeds of plants.
These organized parts serve for the nutrition and growth of animals and plants, and the surplus of the parts, when the other purposes to which they are adapted are answered; being reunited in proper moulds, corresponding to the shape and size of the animal or vegetable to be produced

forms such animals or vegetables, And thus the unity and diversity are preserved and continued When the quantity of this organic matter is small, as in man, and most large animals, generation only takes place at a certain age, of maturity, and even then the increase is slow. In other animals as in fishes and most birds, abounding with these organic parts, the case is just the reverse. With regard to the generation of mankind, he supposes the the superfluous parts are collected together into the seminal vessels of the male & the testicles of the female, which are the reservoirs destined to receive them; thus forming a prolific liquor in each sex.

These seminal liquors composed of parts alike active and perfectly analogous to each other in form and motion are mixed in the womb and contribute by uniting to the formation of the foetus, which is either male or female as the seed of the man or woman predominate; and the imperfect resemblance to either parent, to the deficiency

of the organic molecules.

The particles proceeding from the genital parts fix themselves successively in the same order they before occupied in the parent. When a great quantity of the seminal liquor of both sexes is received into the womb, there are formed different spheres of attraction in different parts of these liquors; the consequence of which is that several foetuses are formed at the same birth.

To confirm Mons de Buffon's opinion, an account is given of a six digitary family, at Berlin, many of which had a supernumerary finger or toe, and sometimes both, And this six digitism of quality of having six fingers or toes was transmitted equally by the father and mother; until it was lost by alliance with those who had but the usual number. Is it to be believed that any one would ascribe the continuation of six digitism in a family to chance; these supernumerary parts might at first have been so supposed, but when they were once established

they became the product of a distinct species; and perhaps all the different species of animals have been multiplied in this way.

As it is in human subjects that the gradual process of generation has been enquired into, and the structure and office of the various organs subservient thereto; the opinions advanced by the best naturalists will be given under the following heads.

Generation of man.

The parts of generation are different in the sexes. Those proper to the male, are the penis, testicles, vesiculae seminales and vasa deferentia. The organs of the female are the pudendum, clitoris, nymphae, hymen, uterus, fallopian tubes and ovaries or testes.

The process of generation, so far as the male contributes are as follows. The penis being erected by an effusion of blood, the parts at the same time turnified; and the nervous papillae in the glans highly excited, in coitu, an ejaculatory contraction follows, by which the seed is pressed

out of the seminal vessels with considerable force. The process in the female consists in the clitoris being erected and the neighbouring parts distended with blood, more adequately embrace the penis, and by the intumescence press out a liquid from the glands in the neighbourhood of the neck of the womb, to facilitate the passage of the penis. At the same time the fibres of the womb contracting open its mouth (which at other times is closed) for the reception of the fine parts of the seed.

Thus the seed pregnant with animalcules, conveyed into the uterus excites the mucous membrane, softens the Fallopian tubes, which embrace the ovaries like fingers force the seed out which is conveyed along the tubes by the vermicular motion and falls into the womb where it is impregnated by the semen and thus is conception performed.

Others rather suppose the seed conveyed along the Fallopian tubes to the ova; and thus take

the impregnation to be first performed in the ovaries or even in the tubes themselves, the ova and seed meeting by the ways.
The ova being impregnated by means of the small twig of arteries upon its membranes and closely shut up in the uterus swims in the humors which growing more subtile enter the pores found on one side of the ovum, distend, ~~and~~ augment and thicken the membranes, particularly in that part by which it is fastened to the ova and thus forms the rudiments of a placenta, The same causes still continuing and the pores of the placenta, and the membranes being enlarged; the egg begins to fill the capacity of the womb, till its stem grows to its concave surface and forms the funiculus.
This system is founded on the supposition of animalcules in the male semen. Thy who set this aside account for it by a fœtid smell which arises, but of this I shall give no account as it would draw

the subject to a greater length than would be proper on such an occasion.
I must now leave it in the hands of honourable men & friends, feeling sure they will not criticise it too closely, or forget it was written by a Student of Medicine

An
Inaugural Dissertation
On
Four Diseases
Observed in the
Baltimore Infirmary
Submitted
To the Examination of the
Provost Regents and Faculty of Physic
Of the
University of Maryland
For the Degree
Of
Doctor of Medicine
By
Wm McQuinn
Of
Maryland

To

Professor Samuel Chew, M.D.

As

A Mark of Respect

For

His Attainments and Skill in Medicine

As Well as

His desire to further the Improvement

Of his Class

I

Most Respectfully Dedicate

This Thesis

As it has been the custom from time Immemorial that a Student applying for the degree of Doctor of Medicine should write a dissertation upon one or several diseases, I thought it would not be incompatible for me to write a dissertation consisting of four different diseases observed by myself in the Wards of the Baltimore Infirmary and treated by Professor Chew. And furthermore as it was recommended by the Medical Convention which met in this City last May for the purpose of elevating the standard of Medicine in this Country

John Collins a native of Ireland age eighteen has been in this country about a month working at the mine banks situated in a very malarious section of country. He entered the Infirmary August the 30th when I saw him under the treatment of Professor Chew on the 31st —

Symptoms

August the 31st From the boy's own account he was taken sick first on Saturday the 26th of August with a violent headach, general debility and severe fever which continued up to the time he entered the Infirmary, when he was laboring under the following symptoms. Severe headach slight ringing in the ears no remission of fever has had no chill, I obtained information from some of the patients in the same ward with him that he

had been slightly delirious on the night of the 30th, but when I saw him in the morning, he was calm and his mind perfectly rational. his tongue much furred, skin very hot and dry, no tenderness upon pressure over the epigastrium face dusky pulse about 85 beats in a minute.

Diagnosis

From the symptoms presented in the case it was extremely difficult to decide whether the case was a masked one of Continued Fever or one of Remittent Fever. We had very good reasons for supposing the case one of a malarious origin, from the circumstance, that there had been a great deal of sickness amongst the hands, also that there were several patients in the house from the same banks who had undoubtedly Remittent Fever. The

most advisable plan taking all things into consideration was to administer small doses of Quinine knowing that if the case was one of Continued Fever it would not injure our patient and on the contrary if Remittent Fever it would be the very medicine to meet the case. Up to 2 O'clock he had taken six grains of Quinine producing the most happy results causing a complete remission of fever, skin cool and moist no head-ach pulse very moderate which proves I think conclusively the case was clearly one of Remittent Fever. Treatment

August the 31st. Three grains of Quinine were prescribed every two hours

September the 1st. Passed a very quiet night, complains of a slight ringing in his ears, no exacerbation

of fever, skin cool and moist, bowels
moved by a dose of Castor Oil pulse 85
The same treatment continued, three
grains being given as an antiperiodic
September the 2nd Much better no
return of fever slept well, skin of the
ordinary temperature pulse soft and
natural, bowels disposed to be constipated, same treatment continued
September the 3rd Still improving
going on with the Quinine bowels
moved by a dose of Castor Oil.
September the 4th A very great improvement
complains of a dizziness in his head
I presume caused by the Quinine
The Quinine taken before every two
hours was extended to every four
hours. September the 5th Convalescent
his general appearance much impro=
ved with a return of his appetite
and strength. September the 6th He
left the Infirmary to all appearances

perfectly restored to his usual health

Remarks

This is a disease common in many sections of our country, caused principally by the malaria arising from swamps, marshes, and stagnant pools of water in the vicinity, It is a disease very favorable in its termination, unless neglected or of a very malignant type, and especially fatal if the unfortunate patient be deprived of the necessaries of life This disease approaches Continued Fever in many respects (as was the case in this instance) many symptoms being present to cause a suspicion that it was Remittent Fever and on the contrary others present to suspect it a case of Continued Fever, It is almost impossible in some types of Remittent Fever to distinguish it for several days from Continued Fever, frequently

the chill is entirely absent, which as a general rule is an inseparable companion of Remittent Fever. All fevers usually commence with a feeling of chilliness. It is one of the first things a patient laboring under Continued Fever complains of, (it however is by no means the chief diagnostic sign) chilliness does not always imply that there is fever, but it is extremely rare for the chill to be absent in Malarious Fever, but such being the case in this instance made the whole difficulty in the diagnosis, for it was very palpable that it was not a case of usual occurance. "What then must be done" the only plan of treatment to be pursued where we suspect Continued Fever must be a mild one, not to gorge our patients, with emetics and purges. "Not a blue pill at night and a pot of feces in the morning;

but wait patiently and if we do administer medicine let it be gentle. The best I believe is Quinine knowing from long experience that it will not injure our patient if Continued Fever, and that it is the talisman in Remittent Fever. Three grains of Quinine were prescribed for this man every two hours, its good effects were evident from the fact that he recovered whilst under its use. I do not mean to say that when Remittent Fever assumes a malignant form, Quinine is the only medicine, but in simple Remittent Fever uncomplicated with other affections Quinine diet and gentle aperients are all that are necessary. Small doses of this medicine are most advisable, but frequently we must give enormous doses, whenever have not see our patient before who perhaps has had several chills and we wish to keep off the

dreaded paroxysm. I know it is frequently the case for Physicians in malarious districts to administer enormous doses of this agent, but they are frequently deceived, on account of the great adulteration of it which must necessarially thwart the effects of such immense doses. Quinine in small doses from three to five grains will produce the results we desire.

William Watson a native of Pennsylvania age thirty four has resided in the City of Baltimore for the last seventeen years occupation Hack driver Entered the Infirmary August the 3th where I saw him on the 3th with Professor Chew.

Symptoms

August the 30th I was informed when he first entered he complained

of a severe pain in his side slight cough great dyspnoea, no expectoration hot skin pulse full strong and bounding, a sinapism had been applied to his side before entering the Infirmary. He passed a very restless night He was first seen by the Dr. on the 31st when he still complained of a violent pain in his side great dyspnoea and anxiety. When he first entered the Infirmary which was at night he was not examined, but was suspected of having Pleurisy as he stated he had been very much exposed, and from the other symptoms he was labouring under. But upon further examination we were enabled to find out his true disease and cause of pain, by the invaluable means of auscultation and percussion. Upon examination of his thorax dulness was evident upon percussion in the lower lobe of the right lung

in front, vocal thrill very distinct in front, Bronchophony and fine crepitation in the same lung. behind crepitation very distinct through the middle and and lower lobes, but less in the lower which was evidently passing into a state of hepatization, whilst the middle lobe was in the first stage of Pneumonia

Diagnosis

I think there could be no doubt about the case being one of Pneumonia, the usual symptoms were presented save expectoration which is seldom absent, but the pain in his side cough and difficult dyspnoea were of themselves sufficient to pronounce it a case of Pneumonia. But we were finally enabled by the means of auscultation and percussion to pronounce it a case of Pneumonia of the right lung in the first and second stages.

Treatment

The first objects in the treatment of Pneumonia are to remove congestion and promote absorption, by means of the Lancet an Calomel and to reduce the arterial action by the free administration of Antimony He was ordered to be bled and put upon the following prescription

℞ Prot Chlorid Hydrarg gr viii
Tart Ant et Potas gr ij
Gum Acac ʒ ij

To be made into eight powders one every two hours. Twenty ounces of blood was taken from his arm. At 2 O'clock he appeared to be much relieved by the bleeding his respiration more free and pain much alleviated pulse good rather full would admit of another bleeding. Thursday After noon 4 O'clock Watson has symptoms of delirium tremens mind

flighty an expression of wildness in his eyes, pupils much dilated hands and tongue very tremulous, thinks himself very badly treated, The delirium increased steadily up to 9 O'clock when he became so furious it was necessary to use force and finally had to put handcuffs on him, his respiration was perfectly free at this time and appeared to be free from all pain. The case being one of Pneumonia and Deliriumtremens, the immediate administration of Opium seemed to be applicable, consequently a large dose of the Tinc Opii was given him with a view of quieting him but without success, the delirium still increased and he died that night about 2 O'clock

Remarks

This case might appear strange to some, they possibly would say it is very easy to diagnose a case of

delirium tremens if it be combined with another disease, so it is a well marked case, but here none of the symptoms were present except great anxiety of mind. When questioned he denied most strenuously being a dissipated man, we could gain no information with regard to his past life or habits save from himself which was very indefinite and unsatisfactory. He stated he had been exposed in very inclement weather, when he entered the Infirmary he was most undoubtedly suffering from Pneumonia, which proved to be the case upon minute examination. The treatment he received was the correct one to be pursued in Pneumonia. The case was indeed a very peculiar one, the treatment of the two diseases directly opposite but what was to be done, we

certainly could not let Pneumonia
run on until the whole lung was
in a state of hepatization, when
there was a chance of cutting short
the disease by active treatment, but
had delirium tremens been suspected
the treatment would have been mod-
ified in some respects. He probably
would have been bled for his situ-
ation demanded it. It is sometimes
necessary to bleed in cases of deli-
rium tremens. But here was a case
in which it was absolutely necessa-
ry to administer depletives on one
hand and on the other opiates. I
have neglected to mention a symptom
peculiar to delirium tremens I allude
to the pulse which is soft and
compressible, but in this case it
was full quick and bounding
denoting inflammation of some
organ evidently demanding the

prompt use of the lancet, consequently there was no hesitancy about using the lancet freely because it was deemed the most prudent and rational plan of treatment There was no post mortem made on account of the unwillingness of his friends. All persons who die of Delirium tremens die in a state of Coma. The appearances after death of the different organs depend entirely upon the severity of the disease also whether it be complicated with other diseases or not. Delirium tremens complicated with inflammation of the brain, presents upon examination a thin serous liquid collected in the interstices of the pia mater, or in the cerebral ventricles and in some instances the arachnoid is thicker and less transparent than is natural, and sprinkled

over with little spots or streaks of a milk white color, Changes of this kind are believed to be owing to chronic inflammation of the membrane It can not be doubted but that the habitual use of ardent spirits cause inflammation in various tissues and parts of the body, in the bloodvessels the liver stomach kidneys and the arachnoid. But in pure delirium tremens uncomplicated with other diseases the only appearance presented is the remarkably soft, pale, and flabby state of the muscular tissue of the heart.

John Balfe a native of Ireland age 42, has resided in this country sixteen years, occupation Laborer, Entered the Infirmary September the 1st where I saw him under Professor Chew's treatment

Symptoms

From the account given by the patient, he was taken sick on Friday September the 8th with severe vomiting and violent lancinating pains in his abdomen. When I saw him he was suffering with violent pains in the abdomen more below the Umbilicus especially in the median line, great pain upon pressure in the epigastrium, profuse diarrhoea, vacuations thin and watery, but no tenesmus, a great deal of tympanites, urine scanty and high colored skin hot tongue very much furred tip and edges clean, pulse quick but compressible about a hundred beats in a minute, he was obliged to maintain the dorsal decubitus position, and was compelled frequently to draw up his legs to alleviate his pains, whenever he turned upon his side his pains

were very much aggravated, Before entering the Infirmary, he had taken a dose of the Essence of Ginger also of Castor Oil and a sinapism had been applied to his abdomen,

Diagnosis

Judging from the above symptoms, his dissipated habits, his previous indisposition, and his present condition I think it plausible to consider the case evidently one of Muco Gastro Enteritis, brought on from drink and the irritating medicine he had es imprudently taken, for the mucous membrane of his stomach being already in a state of inflammation from drink needed but little to increase it to its hieght.

Treatment

The first indication was to alleviate pain, check his diarrhoea and promote a healthy action of the stomach

He was put upon the following prescription

℞ Prot Chlor Hydrg gr v
Pulv Opii gr j

To be taken every four hours if one dose relieves him discontinue it, if not go on, he took three doses of the medicine, which had the effect of checking his bowels, in the evening much relieved, free from pain when quiet and inclined to sleep.
September the 12th Passed a quiet night bowels have not been moved since 6 O'clock last night, still some pain in his abdomen accompanied with a great deal of tympanitis skin hot tongue much coated — pulse 96
Ice was ordered for him and a blister over the abdomen, same treatment continued, September the 13th A slight improvement skin cool but dry, tongue coated, sleeps during the day but very

restless at night, bowels disposed to be constipated an enema of salt and water was ordered, pulse soft about 90. September the 14th Not so well complains of vomiting and acid stomach has no appetite, bowels quite regular sleeps badly skin cool and moist, pulse about 90 still tympanites, The former treatment was discontinued and he was put upon the following prescription

℞ Bi Carb Soda ℥ij
Sulph Morph gj
Gum Acac ℥ij
Aqua ℥vi ℥ss every 2 hours

This medicine was given to act as an antacid anodyne and a sedative. September the 15th A slight improvement does not complain of pain in the abdomen, vomits occasionally, sleeps well at night skin cool pulse about 75 bowels constipated, some tympanitis, the medicine acted well producing the

effect desired it was extended to every
four hours. September the 16th Improving
slowly, sleeps well skin moist tongue
cleaning rapidly pulse 75, bowels
constipated, still tympanitis, Castor
Oil was ordered and the same treat=
ment continued. September the 17th
A very great improvement some appe=
tite, bowels moved by Castor Oil.
September the 18th Still improving bow=
els regular same treatment continued
September the 19th Free from all pain
eats well tongue clean skin of the
natural temperature, pulse soft and
natural bowels disposed to be constipa=
ted, an aperient was ordered and
the alkaline solution continued
September the 20th Complains of ardor
urinae in other respects doing well,
Flaxseed tea was ordered, continue the
treatment. September the 21st Was taken
with a severe pain in the lumbar

region, from other symptoms it was supposed to be owing to a passage of a calculous into the bladder, he was put upon the following prescription

℞ Infu of Gent & Aqua Calcis

the other treatment continued.

September the 22d No pain the Infu of Gent & Aqua Calcis was discontinued, he was ordered to go on with the solution. He was doing well up to the time Dr. Chew left the Infirmary. When Professor Power took charge of the Medical Wards of the Infirmary, upon examination of this patient, he discovered in the right iliac region a large tumor, which he suspected was caused by an accumulation of hardened feces in the colon, the patient however said his bowels were regular, but from the situation and firm feel of the tumor he determined to try the effects of an enema, it was administered to him

causing very copious stools but did not reduce the size of the tumor several other enemas were given him without producing any benefit whatever. Another course was then deemed necessary, he was not purged by the mouth at first on account of his great debility but having in a great measure recruited, cathartic pills and blisters dressed with mercurial ointment were applied to the region, causing the tumor to decrease in size very rapidly. This mode of treatment was continued for a short time, when the tumor disappeared entirely, and the man left the Infirmary in good health

John White a native of Ireland age 27 occupation cooper, has been in this country three or four months was taken sick on Sunday the 4th of September with a violent

headach ringing in his ears
sensation of chilliness and very
frequent evacuations, He had
been most abominably treated
before he entered the Infirmary
which was on the 13th of September
nine days after his attack where
I saw him under the treatment
of Professor Chew.

Symptoms

Tuesday the 13th White was laboring
under the symptoms, violent
headach ringing in his ears, great pain
upon prefsure in the right Iliac region
accompanied with gurgling in the
abdomen - frequent evacuations skin
dry but cool face dusky dichrotic
pulse tongue dry and fissured un-
able to protrude it far out of his mouth
mind rational, does not sleep well at
night, and upon examination of his
body found it covered with rose spots

and numerous patches of sudamina which usually occur in the second week.

Diagnosis

It is scarcely necessary to attempt to make a diagnosis of this case, as any one would know from a glance at the case, that it was one of Continued or Typhoid Fever, most shockingly treated by some Charlatan,

Treatment

Tuesday the 13th. As I have before stated he consulted some Charlatan, who gave him a violent emetic and purge also placed a sinapism over his abdomen which had been neglected to such a degree that it was sometime before it healed. A more scientific an rational treatment was adopted. B Chew prescribed

℞ Soda Bi Carb ℥ij
Sulph Morph grij
Gum Acac ℥ij
Aqua Fontis ℥vi ℥ss every 2 hours

his skin to be well sponged with water
and use the Chalk mixture freely.
Wednesday the 14th Headach and pain in
the right Iliac region still continues
bowels were checked by the Mixture
skin pleasant mind clear tongue dry
and fissured pulse soft and frequent 118
a slight improvement continue treatment
Thursday the 15th Still some headach does
not complain of tenderness upon pressure
in the right Iliac region, bowels rather
costive skin hot and dry tongue dry,
mind rather dull sleeps badly pulse 96.
a dose of Castor Oil and Ice to be
put to his head was ordered continue
treatment. Friday the 16th A slight
improvement does not complain of pain
in his head was in a profuse perspira
tion sleeps badly pulse soft about 96
bowels moved continue treatment
Saturday the 17th Rather better skin hot
and dry tongue not as dry cleaning

pulse 80 a dose of Castor Oil ordered
bowels disposed to be constipated
continue the treatment except Ice
Sunday the 18th Improving rapidly free
from all pain skin pleasant rose
spots and sudamina have disappeared
bowels moved, has considerable appetite
pulse 78. continue the Alkaline Solution
Monday the 19th Still improving skin
of the ordinary temperature sleeps
well pulse natural desires to get up
tongue quite clean, continue the
Alkaline solution, Tuesday the 20th
Continues to improve, but is still
very weak and complains of a
stiff neck a liniment was prescribed

℞ Oleum Olivi ℥ij
Aqua Ammon ℥ij
Tinc Opii ℥ij

Wednesday the 21st Complains of his neck
tongue moist and clean sleeps well, has
some fever as he has symptoms of Parotitis

Thursday the 22d. Having become convales-
cent from his attack of Typhoid Fever
he had a very slight attack of Parotitis
which lasted only a few days nothing
new being presented Interim, When
he left the Infirmary he was still weak
but restored apparently to perfect health.

Remarks

This is a common febrile affection presenting
a diversity of symptoms, having a certain
recognizable character, and probably constitu-
ting in all its forms one and the same disease,
It is the ordinary endemic fever of Europe
and those portions of our country in which
the Miasmatic Fevers do not prevail, The
causes of this disease are not known, they are
very diversified, it is very frequently gener-
ted in those situations where persons are
crowded together, with insufficient or
unwholesome food & in a confined and
vitiated atmosphere, This disease usually

commences insidiously and its symptoms increase gradually, At first the patient complains of weariness general uneasiness soreness of his limbs and of a slight headach and fever, his tongue is covered with a white fur, and frequent evacuations. According to Louis it is an almost uniform symptom, being absent in only three cases examined by him, These premonitory symptoms continue for several days, when the disease assumes a more serious character, The tongue at first moist becomes dry and brown, deglutation is painful and sometimes almost impossible, the abdomen becomes tympanitic in some cases the abdomen is so much distended that it interferes with respiration and the intestines are not able to act upon their contents on account of the gas rose spots and sudamina are discovered upon his body, delirium and difficulty

in hearing come on, the eyes are injected the face ducky and the tongue trembles and is protruded with difficulty, If the case is to result unfavorably, the pulse becomes very frequent and in some instances slow and almost imperceptible the extremities cold the body bathed in a cold clammy perspiration, the abdomen enormously distended, and frequently the patient expires without a struggle. If it is to result favorably the patients tongue becomes moist and cleans rapidly, the skin returns to the ordinary temperature, he takes notice of things which surround him, under such circumstances the convalescence is very rapid, Bronchitis usually accompanies this disease, the patient suffers from some cough, which is either dry or accompanied with a slight mucous expectoration, without soreness or depression in the chest, you may generally upon examination of the thorax

detect the sonorous and sibilant rales. I observed that a sinapism had been applied to his abdomen, which was very sluggish in healing it is frequently the case for in this disease there is a great tendancy to sloughing of the skin, which shows itself especially when inflamed by blisters or sinapisms. This is owing in a great degree to the feebleness of the capillary system diminishing the vitality of the surface. There is scarcely a single organ in the whole system which does not show some signs of inflammation after death from Enteric Fever. The Glands of Peyer in the Ileum and those of Brunner in the duodenum are most usually hardened or softened, the hard patches undergo reduction or ulceration the soft almost always ulcerate frequently producing perforation of the intestines. The Spleen is altered becoming enormously enlarged and softened. The Liver

Kidney & Heart are softened & The Bronchial membrane is inflamed. It frequently happens that Parotitis attacks patients laboring under Enteric Fever, it did this patient but he escaped the unpleasant effects which sometimes result from this disease by the timely interferance of Science. I have seen this affection in the Wards of the Infirmary several patients suffering from Enteric Fever, who were attacked by this disease, causing otitis and the entire sloughing of the membrane of the ear which caused the loss of hearing out of that ear. The only ill consequence to be dreaded in this disease is the liability of Metastatis, it sometimes changes from the original seat to the brain testes & mammae causing sometimes very serious consequences our only object is to endeavor to solicit its return to the original seat by medicines we happily have in our possession

An
Inaugural Dissertation
on
Practical Obstetrics.
Submitted to the examination
of the
Provost Regents & Faculty of Physic
of the
University of Maryland
for the
Degree of Doctor of medicine
by
Richard P. Blakistone
of
Maryland.

2

Since your learned Body have thou-
-ght fit to make it imperative on each
student that he should write a Thesis
of his own composition upon some subject
or number of subjects appertaining to medicine,
previous to his applying for the degree of
Doctor of Medicine, I have good confidence
that you will extend a liberal indulgence
to the very many digressions which I fear
will be herein contained, as well as its
other imperfections and brevity on account
of its time of composition; But to this your
minds will likely inquire, why so hasty?
To this the Poet seemingly has answered:
"Procrastination is the thief of time"
It is my intention to proceed at once,
to the subject of my essay, which will
be confined, I might say, to no particular
subject, but incline as closely as possible
to the peculiarities of the Female: Their moral
influence, their nervous impressibility and
susceptibility; Their peculiarity of form

when compared with the male, Their most prominent points in an Anatomical view in the pelvic region, as well as the genito urinary apparatus, Their relative functions &c. I shall then proceed to speak of their abnormal distribution, and the consiquences depending thereon, The only resort in such cases &c. I next shall speak of the necessary reserve of the Obstetrician, His duties during parturition and likewise his negative duties. Then of Hemorrhage and its most frequent cause and treatment; Also of premature labour, or abortion and its cause and treatment, And when I shall have spoken as freely as I may think expedient on these several points, I shall then claim your attention for a few moments to the never failing rules to be observed both in entering and leaving the chamber of the delicate, timid and fascinating Female, And when I shall take leave of her here I also shall have taken leave of you, Hoping that you

will not narrow down or measure my ability in the sick chamber by any thing which may be herein contained, or of which you shall learn of me in the Green Room, I shall proceed at once to a more full account of the topics above alluded to. That the Female does exercise an influence upon the morals of man is too well known to and seen by all the world, even the illiterate, to need comment. And now that they do exert this the most important of all influences, is there not strong reason why the student should advert more closely to their peculiarity of form and structure, and the most efficient remedies for any derangement appertaining thereto; In doing this, the first thought which should fill the inquiring mind of the Physician is the very delicate creature with which he has to deal. This being kept in mind as well as their peculiarly nervous excitability and compressibility, his every step should be guarded, as though he himself were the patient and she the Physician, For though he does not feel the pain which she does, yet

so closely is the welfare of the patient allied to the intrest of the Physician, that aught calculated to injure the health or sense of delicacy of the patient, must likewise injure him. How important is it then, that the Physician should so demean himself in the sick room, as to secure the confidence and respect of his patient. He should be no less attentive to her sense of delicacy, than to the disease which he may be treating, such a course will be sure to win for the Physician the lasting confidence and gratitude of her who has marked the tenderness and sympathy manifested by him towards her. With these truths in view, can man turn a deaf ear to the cries and shrieks of the suffering female? Having thus spoken, I proceed to the consideration of the pelvis and its more prominent points in an obstetrical point of view. The female pelvis is composed of five sacral and four coxigeal bones posteriorly with two ilia and two ischia laterally on either side, and one pubic bone on either side anteriorly. The four coxigeal bones beginning at the lowermost, are progressively

larger as they ascend. The five sacral are likewise larger beginning below and counting upwards until you reach the junction of the last lumber vertebra, with which it unites. The only peculiarities then between the sacrum and coccix is that whilst the sacral bones are immoveable they contain four foramina on either side both anteriorly and posteriorly for the exit of the sacral nerves, whilst the coccix is very moveable and contains none of the above named foramina. Thus is exhibited the most beautiful specimen of the superior skill and wisdom of nature, that whilst the sacrum is immoveable upon itself and thereby offers a firm place of attachment for the ilium on either side with which it articulates, they do jointly give a sure protection to the contents within. Nor is this the only example herein evinced of so great a wisdom. I have before said that the sacral bones were immoveably united, and that the coccix was freely moveable, the whole vertebral column above the sacrum is also freely moveable, yielding to all

the calls of nature, suffering the body to incline more or less in all directions. Whilst the bones of the coccyx being moveable yield to all the calls of nature and resume their former position, and thereby offer support to the gravid uterus and other pelvic viscera contained within. The symphysis pubis is formed by the junction of the two pubic bones, one on either side, the descending ramus of which with the ascending ramus of the ischium form the arch of the pubis. And why is this of importance to the obstetrician? It is this! In proportion as this arch is acute or obtuse, so will be the passage of the fœtus through the outlet more or less difficult. This is most beautifully exemplified the cause of the marked difference, which we observe in the male and female arch. The sacrum also illustrates another striking feature of difference between the male and female. It is plainly seen to be vastly larger from side to side, and from the obliquity of its articulating surface with the ilium, cause the upper or false

pelvis to set off and thereby give a spacious cavity for the foetus during its sojourn within. The ossa innominata contain within their walls on either side a large foramen (the obturator foramen) which are closed over by a thin membrane (the obturator membrane) which would scarcely need be mentioned here but that it forms one of the landmarks in all cases of labour. Its presence seems designed rather to give lightness to the bony structure of the pelvis than for any other purpose which it is intended to subserve. I can not conclude what I have to say upon the osseous system in the pelvic region without taking a glance at the structure of the female femur and its peculiarity when compared with the male, and thereby its appropriateness to the performance of the twofold office which it has to perform. To illustrate this dissimilarity of the femur in the male and female does but require a visit to the dissecting-room when the observant eye will readily be struck with the contrast; whilst the head of the male femur

is nearly in a line with its shaft, that of the female is nearly at rightangles; thus causing the female femur to set off at top and give a free egress to the foetus, as well as to prevent that contusion which would necessarily occur to the neighbouring soft parts under other circumstances. Having spoken as concisely as is here necessary upon the osseous portion of the pelvis, I now proceed to an account of its muscular structure, omitting all of such as may seem of least interest to the obstetrician. The pelvis is lined on its inner walls by the iliacus internus and psoas magnus and minor muscles throughout its almost entire extent. They have separate points of origin high up in the pelvis, and running down the two former pass obliquely forwards and emerge under Poupart's ligament, and are inserted in the lesser trochanter of the femur, whilst the latter is inserted in the linea ilio pectinea. The diaphragm is a thin muscle stretching across the body and dividing the two great thoracic and abdominal cavities, this muscle

has in it three foramina, through which the descending aorta, the oesophagus and vena cava ascendens pass. I make mention of this in this place as it is one of the chief assisting muscles in parturition, and likewise in evacuating the bowels and bladder. Nor is it known to be of more importance in serving this function than are the abdominal muscles (The external and internal oblique and the transversus abdominis) with the recti muscles in front; these being the chief muscles engaged in the function of labour. I shall begin with the pelvic viscera and name them severally and advert to the functions which they perform; and in doing this I shall only slightly notice the external ones as being of less intrest, but will dwell longer on the more important ones within. The vulva comprise all the external organs of generation. Namely, Mons veneris, labia majora and minora, the perineum and fourchette, the clitoris meatus urinarius and hymen: whilst

the internal comprise the vagina uterus fallopian tubes and ovaries, immediately in the vicinity of these in the pelvis, is the bladder and rectum, which though they do not under any circumstances tend to facilitate labour, yet is the neglect of them often fraught with the most serious consequences during its performance. The urethra and bladder are both muscular organs and from the thinness and compressibility of their walls are often so compressed during the act of a tedious labour as to impede or entirely prevent their emptying themselves by their own efforts, and require the assistance of the attendant to relieve them: The neglect of this is not only attended with evil to the organs more immediately concerned, but it acts and reacts on itself. The prevention of their being evacuated being first caused by the uterus or uterine contents making pressure upon them, whilst on account of the enormous size which they subsequently attain, the passage of the foetus is often rendered extremely

tedious, painful, and often impossible, with all the fatal consequences appertaining thereto. The uterus is a pear shaped organ situated in the pelvis between the os pubis and sacrum, anterior to the rectum, and posterior to the bladder. Its position as respects height and depth is regulated in some respect by the number of times it has been impregnated, it being higher up in a primipara than in women who have born children. It is also influenced by the period of impregnation, being first low down then gradually rising until near the full term, when it again descends. That the uterus is a muscular organ ~~organ~~ has been the theme of the most eminent of the profession, and after the many theories adduced both for and against it, the profession have settled down upon the fact that it is (things which are equivalent to the same are equivalent to each other) and certain it is that it performs all the functions of a muscular organ

and that in the most perfect manner. The uterus has been divided by obstetricians into fundus, body and neck. The fundus is that part which usually lies highest in the pelvis and to which the placenta is most frequently attached. The neck is that part situated lowest in the pelvis and attached to the vagina. And the body is the medium space between them. The expansion or growth of the uterus begins at the fundus and progresses downwards with the adv=ance of gestation until it reaches the neck which does not take place until near the full term unless abortion or premature labour should be accomplished. The contraction of the organ after delivery is accomplished in the same progressive manner, beginning at the fundus uteri. There are however exceptions to this rule, in which it contracts irregularly or at the body first, forming itself into an hourglass appearance; which is in itself a malady somewhat to be dreaded, and is most frequently brought about by the meddlesome interference of the

obstetrician. With proper care and patience it will ~~scarcely~~ rarely occur. Near the fundus uteri on either side is situated the fallopian tubes, they are from four to six inches long, round and somewhat smaller at their origin than elsewhere, gradually enlarging as they proceed from that organ towards the brim of the pelvis, to which they are attached. Their use is to convey the male sperm to the ovarium and the fecundated ovum back to the uterus. These tubes as well as the uterus have a muscular coat lined by a mucus membrane internally. The other appendages of the uterus are the broad and round ligaments and the ligaments of the ovaries, these perform separate offices connected with the retention of parts in position of these there are three on either side latterly, one of each kind. The broad serves to connect the uterus to the walls of the pelvis latterly; that of the ovary serves to suspend it; whilst the round ligament passes forward through the inguinal ring and is inserted

into the mons veneris, serving to prevent the uterus from falling back in the pelvis during its gravid state. The abdomen is lined throughout most of its surface by the peritoneum, which is reflected over and forms an external covering for most of the viscera contained within, and at the same time binds them firmly in place. The placenta is an organ which only exist during impregnation, it is situated within the uterus, and generally at its fundus, but is sometimes found elsewhere, as at its body, or neck.. of these, the former is the most advantageous to the safe production of labour, and the body next, whilst its attachment to the neck or over the mouth of the organ is usually looked upon as being of a grave nature. This is truely a vascular organ and its function is disputed by the most eminent of the profession; but is most generally believed to stand in the same relation to the foetus as the lungs do to the adult. It is attached to the foetus by the funis, through which

the whole foetal circulation is carried on. The funis is composed of one vein and two umbilical arteries, and the cellular membrane within which they are contained. Of these the vein is supposed to convey the blood to the foetus, whilst the arteries return it to the placenta. The ovarium is the organ in which ova is formed, it is situated in the fimbriated extremity of the broad ligament, where the ovum remains until conception, when it descends covered by the amnion and corion through the fallopian tubes, into the uterus, pushing before it the decidua, with which it comes in contact at the uterine surface, and which it has reflected over it in most of its surface. Within these membranes is contained the liquor amnii, in which the foetus is suspended during gestation. This fluid continues to increase from the time of conception until birth, and enclosed as it is in the two membranes which invest it, it insinuates itself through

the mouth of the uterus, and greatly assists in the dilatation of that organ, at the time of delivery, and likewise forms an important part in the nutrition of the foetus, conception. In order that this may take place it is necessary that the female should be capable of menstruating in a healthy condition, this being the case, during sexual union the male sperm passes through the uterus and along the fallopian tubes, and in this manner is seized by the fimbriated extremity of the latter, and is brought in contact with an ovum and impregnates it, the fecundated ovum does not yet descend but remains for a given time not exceeding a few days, in the ovarium when it bursts its covering and descends along the course of the tube into the uterus where it remains during the full term of utero gestation. The means by which the male sperm is brought in contact with the ova, is too mysterious

and uncertain, to entitle it to a place in a brief production like this. It often happens that in a case of protracted labour the physician is called on to account for the delay, in such case it is consoling both to the friends and physician to be able to give some satisfactory explination, in order that the physician may do this, it is requisite that the relative measurements of the Mothers pelvis to the size of the child should be understood. The weight of the foetus at full term is said to average eight pounds, ranging from seven to ten, but at times differing even more widely than this. Its height is from twelve to eighteen inches, the length of its funis being usually about eighteen but varying very much in different subjects, when found to deviate materially from this, it is subject to work evil in one of two ways, if too long it has been known to be closely wound round the neck of the child, in which case death is brought on by asphixia, or it may

descend during labour, ahead of the foetus and thereby subject itself to compression, which if continued for any length of time will destroy life, but on the other hand, if it is found too short, it often has to be divided before labour can be accomplished, and may even be ruptur=ed by the traction made on it during the effort to deliver, not being aware of the impedim=ent, delay of labour with flooding is also an evil growing from this source, as will be observed when we consider the chain of connexion which it forms between the foetus and placenta, thus will be seen that the same extractive power which is made on the foetus is conveyed through the funis to the placenta, and thereby well calculated to tear it from its connexion along with the delivery of the child, and this being effected before the uterus has had time to recover from its prost=ration, is often the cause of serious hemorrhage. Nor is this the only evil to which the moth=er is subjected, the simultaneous expulsion of

the two, gives to the parent a nervous shock under which she will often sink, the adjacent viscera having not yet reconciled themselves to the vacuum which is thereby wrought. The term of gestation is said to be nine months; though this term is said to vary at times, children have been suscitated at seven months but never at an earlier period; and the nearer the full term the better the prospect of the foetus, though it is a popular opinion that the child of seven months stands a better chance than that of eight, it is an erroneous idea and carries with it no well grounded reason. Labour. This I define to be the function by which the foetus is ushered into the world, without respect to time. Natural labour is that in which all the parts both of the mother and foetus are well adapted to each other, and in which no evil occurs during, or immediately after delivery, and any deviation from this may be classed as unnatural, should the delivery not

be completed within twentyfour hours from the time when labour is well set in, it is termed tedious or slow labour, and the labour is not completed untill the placenta is removed, and the woman placed comfortably in bed. The usual time of expulsion of the placenta is within twentyfive minutes after that of the foetus; though any time within an hour may be considered good time. Should there be no other symptoms making it necessary, I would by no means attempt its extraction by hand within less than from four to six hours. I once had in my employ a primipara girl who was not delivered of the placenta sooner than seventy two hours from the time of the birth of the foetus, when it was extracted by a neighbouring physician, and the girl did well; no evil or unpleasant symptoms occuring as its consequence. Symptoms of labour. They are those signs which warn the female of the coming event and bid her to prepare, The little fellow long concealed, Will

pretty soon appear. She feels a sensation of lassitude with or without pain, but most frequently with it; when it does occur, it is intermittent, occuring at irregular periods; being at first slow and dull, and gradually becoming swifter and more lancinating, so that near the close of labour there is scarcely any intermission. During the premonitory pains the woman seems to experience a certain degree of despondency, but as labour advances her spirits improve and she seems to take pleasure in the pain which she suffers. When labour comes on, the woman should be placed near the edge of the bed either on her back or left side, with the perineum over or near its edge; the feet should be supported by the assistant. During the expulsion of the foetus the perineum should be supported with a napkin in the hand of the accoucheur, the neglect of this important duty may subject the patient to severe laceration

much to the detriment of him who conducts the case. All head presentations are natural, though the vertex is by far the most frequent, and likewise most favourable; that is with the posterior fontanel towards the left thyroid foramen, whilst the anterior is towards the right sacroiliac junction, or conversely, should the vertex present to the right or left sacro=iliac symphysis, then will the anterior fon=tanel present in the oblique position corresponding to it. The labour in this case will generally terminate favourably, though more tedious and attended with more danger to both the mother and child. The other presentations are feet, knee, breach and shoulder. When the feet present there is but little or no additional danger to the mother, to that of a natural head presentation, and it is occasioned simply by the tediousness with which such labour does progress, and the consequent wasting out of the womans strength. In the above named presentation there is much

danger to the child owing to the almost necessary pressure made on the cord during the passage of the child through the external meatus, the head not yet having been delivered, in such case, should the child be known to be alive either by the previous pulsation of the cord or otherwise, and the cord then ceasing to pulsate, delivery should be effected in all possible speed, the safety of the mother at the same time being kept in view. In all knee presentations labour should be conducted upon the same general principles, care being taken that the cord is placed in the most favourable position to avoid compression. In both of the last named presentations the mortality is very great, nearly one fifth being stillborn. I know of but little danger attending breach presentations, provided there is a sufficiency of space in the outlet for the exit of the foetus, though much more room is required; the danger to the child is

decidedly less in this, than in feet or knee presentations, the soft parts being more widely dilated, suffering the egress of the child to be accomplished with less danger of compression upon the cord; in such cases great care should be taken that the child is not expelled too rapidly, as the patient may suffer a severe nervous shock from such a cause. Shoulder presentations are evils much to be dreaded, as they are insurmountable except by a change of position, amputation even having proved of no avail in the hands of experienced accoucheurs, if the presentation is discovered early it is no hard matter to introduce the hand and turn the child, but when it has reached the true pelvis turning is almost impossible. When turning in this or any other case has to be effected, the hand being closed to occupy as little space as possible should be introduced with its back towards the internal wall of the uterus, and its palm towards the child, then searching for the feet grasp them firmly and draw

down, always observing to draw in the direction of the spinal axis, that is, towards the abdomen of the foetus, Should delivery be at any time impeded by a tumor in the pelvis, the physician must be directed by the nature of such tumor, if it be one of a fleshy nature, it may sometimes be removed by the knife, or by the application of a ligature, if serous, a simple puncture will often suffice to remove the evil, but if osseous, it is impossible to remove it, and delivery in such case can only be effected by the caesarean opperation or crotchet, in the choice of these the obstetrician must be guided both by his knowledge of the pelvic space and the condition of the foetus, if the child is known to be dead and the space is sufficient to admit of its extraction by the crotchet without too much contusion to the surrounding soft parts, I would by all means prefer it, but if otherwise, the caesarean operation as being

more safe to the mother, should the child be known to be alive I would not hesitate but proceed as soon as possible to the caesa=rean operation not omitting to consult with an older physician if one could be procured previous to undertaking it, the above observations I deem applicable to all other pelvic deformities producing the same results. Abortion. To this term I apply all cases in which the embrio is ushered into the world previous to the seventh month, without respect to cause. When once it has occurred, it is difficult to prevent its recurrence. The principal causes producing it, are, mechan=ical violence, such as blows, strains, jumping from a hight, mental excitements, as joy, grief, fright, overfatigue &c. To prevent suspected abortion the indications are to avoid the causes which produce it, when it does occur the indications are the same as in other labours. The symptoms of abortion are, uter=ine hemorrhage with intermitting pain, subs=

-cidance or falling of the abdomen, and when on placing the hand over the uterine tumour it is felt to contract with the occurrence of pains When from any cause abortion is indicated, it may be effected by the use of drastic purgatives, blistering over the abdomen, introducing a sponge tent into the os tincæ &c. Hemorrhage. This I define to be any morbid discharge of blood without regard to cause, the causes are too numerous to mention, some of which are the morbid attachment of the placenta, or its bad attachment, as over the mouth of the uterus, the want of contraction in that organ &c. When it does occur, the indications are to remove the cause, which if from the adhesion of the placenta over the os tincæ, is to bring on labour; if from its morbid adhesion and retention within the uterus as a consequence, introduce the hand and remove it, if from want of contraction in the uterus, give ten fifteen or twenty five grains of ergot,

use friction with the hand over the uterine tumor, inject with astringents, use the cold douche &c. I once had a servant girl hired out in my neighbourhood, and knowing her to be pregnant, there was an understanding that she was to be discharged and sent home when symptoms of approaching labour came on; the time arrived, and she made known her condition, but did not obtain permission from her employer to leave, the girl knowing her condition stole off at night and endeavoured to reach home: Labour however came on and she was foiled in her attempt, on the morning following she was found together with her infant baby, which she had in her arms by the road side on a marsh where she was entirely excluded from shelter, the parent and child do survive at this time, the mother however suffered much from the exposure of the night, the snow having fallen some two or three inches thick over the earth during

the time of her exposure; the girl was confine=
=ed to her bed for some twelve, or fifteen mon=
=ths with ~~anasarca~~ anasarca, after which time she ent=
=irely recovered, since her recovery she has
born seven other children, not one of which
has lived over nine days, having died of
trismus infantum previous to that time.
I make note of this here as illustrating
two striking and important features in the
obstetrical practice. First that nature is
often and in most cases all sufficient to
accomplish labour of herself, and seccondly
as setting forth the importance of the woman's
being exempt from exposure after labour,
as I not only attribute her sickness to the
exposure of the night, but also the death of
the other succeeding seven children, as I
know of no other mode of accounting for the
phenomenon in question than that some por=
=tion of the uterus or lacteals took on disease,
and I see good reason why disease of the
surrounding viscera should be conveyed by

contiguity to the child, or even be taken into the circulation and by that means be conveyed to it. Entered the Baltimore Infirmary July tenth eighteen hundred and forty eight a negro girl to be treated for syphilis, she was placed under my especial care, and but few days elapsed when she was found to be pregnant, from this time scarce a day did elapse but that I made an examination; at first the neck of the uterus could easily be felt low down in the pelvis, but as gestation advanced it seemed to recede until it was with difficulty reached by the finger, it was likewise at first pointed, but finally became more blunt as the organ expanded and its neck was consumed. On September the first the girl complained of a sense of uneasiness in the uterine region, this would at times disappear, and again recur, growing perceptibly worse every day, when on the third, the pain was dull but disturbing greatly the rest of the patient, on the morning of the fourth I found the os tincae dilated to the size

of a ten cent piece, I made my examinations several times through the day and found but little advance in the case, about ten that night I found it of the size of a dollar, I then retired leaving orders that if there seemed to be a prospect of its termination; I was to be sent for; about one oclock on the morning of the fifth I was notified that my services were needed; on reaching her chamber I found the os tincae well dilated through which was protruding the membranes filled with the liquor amnii, I waited patiently for some two hours when on examination I found the bag of waters immense with such dilitation of the os tincae as to make it difficult to feel its edges, and would not have recognized them but for the previous examinations. The pain in this time which had before been gradually increasing both in frequency and intensity now recurred at longer intervals and with less violence; I mixed of ergot forty five grains and dividing it into three doses gave it

to her at intervals of ten minutes each until the whole was taken; I must confess I saw no good from its use; the article being old is the only way of accounting for it, as it is an article of unquestionable utility; I having learned a useful precept from one whos name I need not mention; which is to make haste slowly, waited thirty minutes from the time of the administration of the last dose, when I introduced my hand and on the first recurrence of pain ruptured the membranes which I did by friction with the nail of the index finger; the waters were then discharged and the pains at once came on, in fifteen minutes from the time of the membranes being ruptured the foetus was delivered. During each of the terminal examinations I made an effort to make out the presentation but in vain were my efforts until after the rupture of the membranes, when all the difficulty was suddenly obviated; I distinctly felt the posterior fontanel obisite to

the left foramen ovale, it being a vertex presentation. During the egress of the child I supported the peritoneum with a napkin in my left hand whilst I made gentle pressure and friction by grasping the uterine tumour with my right the child now having been delivered; with a tape string which I had provided, I tied the cord in two places, the first about an inch and a half from the umbilicus, and the second about two inches, with a pair of scissors I then divided the cord between the two ligatures, I then handed the child to a young woman who washed it in tepid water and dressed it, returning to the patient I kept up the accustomed pressure and friction In a few minutes pain came on, and in ten minutes the placenta was expelled into the vagina from whence I withdrew it by hand; I then passed a cloth round the womans abdomen and drawing it tight confined it with pins; then returning to the

child attended to the dressing of the navel and put it to the mothers breast, the mother and child both did well. Summary. As the reproduction of the human species is the most important of all human events, and therefore should attract the attention of the physician to the exclusion of all things else, the first thing which he should do when sent for should be to go, and that with all possible speed, suffering nothing to withdraw him from so great an object; in starting he should not omit to take with him his long forceps, some half drachm of ergot, a few drachms of chloroform, and a female catheter, together with a small quantity of Aqua Ammonia or carbonate of ammonia or both. Physician be truthful nothing can need a lie The act which needs it most grows worse thereby If in this paragraph you one new idea see Content yourself and cast your vote for me

Baltimore Infirmary August 3th 1848

An
Inaugural Dissertation
On
Pneumonia,
Submitted to the examination of the
Provost, Regents and Faculty of Physic
Of the
University of Maryland,
For the degree of Doctor of Medicine
By
William P. Bird
of
Maryland.

Feb: 1849

Pneumonia.

It is the disposition of most writers to magnify the importance of every disease of which they treat. But however reprehensible this spirit may be, when manifested in the description of most other affections, it certainly becomes much less so, when indulged in the treatment of the present subject.

It must be admitted that there are but few diseases which may not sow the seeds of death, and cause the extinction of the vital spark, and consequently there are but few to which importance ought not to be attached: yet some are rendered preëminently dangerous, from the seat they occupy, the rapidity of their march, and the perilous derangements which they occasion. In this class may be ranked pneumonia, a disease which though vincible by timely and well-directed treatment, yet if neglected or mismanaged assumes a formidable character and is attended with the most serious consequences. Such indeed as might be expected, when we consider its true nature, consisting as it does in inflammation of the substance of the lungs, one of the strictly vital organs of the body, forming with the brain and heart, the tripod of life. By some the term has been used in a more extended sense, to designate acute inflammation occurring in most of the structures within the thorax; such as the pleura, the mucous membrane of the bronchia, and the proper cellular structure of the lungs; thus blending together diseases which have

well marked distinctions founded in pathology, and most important in practice. By modern pathologists this distinction has been drawn, and the term pneumonia is universally applied to that form of acute thoracic inflammation, which involves the true cellular structure or parenchyma of the lungs. The precise situation of this inflammation, the extent to which it has reached, and the morbid condition which it has produced, is made known to us mainly by the science of auscultation. And as the knowledge which we derive from this source is the most definite and valuable in aiding us to distinguish between it and its kindred affections, and as the remedial treatment varies in its character, according to the phases assumed by the diseased lung, it is necessary that we consider first, the morbid conditions of pneumonia, as an indispensable prerequisite to a full comprehension of the symptoms which flow out of them.

Anatomical characters:-

The anatomical characters or morbid anatomy of pneumonia may be classified under three heads:- the state of engorgement, of red hepatization, and of gray hepatization. These terms designate the first, second and third stages, through which the diseased lung, if not arrested in its course, passes successively.

II. State of Engorgement:-

This condition of the lungs is characterized by its vessels and substance, being distended with blood or bloody serum, by its being heavier, more inelastic, and not crepitating so much on pressure, as a healthy

lung, by pitting slightly on pressure, and when cut into frothy serum exuding from it. Its color is usually dark or red, and its cohesion so much diminished that some have applied to this stage of inflammation the name of Splenization, from the lung being easily torn like the spleen.

These alterations and appearances may be produced by continued fever, but they can easily be distinguished from those which are the results of pneumonia, by the history of the case and antecedent symptoms. A gradual transition, if not prevented, takes place from this to the second stage.

III. State of Red Hepatization:—

The name used here to designate the further alteration of the lungs, is somewhat significant of the true morbid condition. Coagulable lymph being thrown out by the vessels of the proper cellular texture of the lungs, gives rise to what has been called hepatization, or consolidation of the lungs, resembling very much in their appearance, a piece of liver, being nearly of the same consistency, impervious to air, and consequently incapable of performing their usual functions. The tissue of the lung thus consolidated, is more dense, solid and friable than in the first stage, and is so heavy as to sink in water. It no longer crepitates on pressure, appears to be increased in bulk, and if the entire organ be involved in the disease, it does not collapse, when the chest is laid open. Its cut surfaces may be uniformly

red or else mottled and variegated. When cut into, a red fluid flows from it, but much less in quantity, and not so frothy as in the former degree. At the same time, a number of small granules may be observed, supposed to be caused by the consolidation of the air cells, their walls being thickened, and their cavities obliterated by the concrete fluid. These changes may be confined to certain of the pulmonary lobules alone, whence the origin of the term lobular pneumonia.

When the inflammation has arrived at this stage, if it be not cut short so as to terminate in resolution, it advances into the third stage.

IIII. Gray Hepatization:-

This term marks a much more serious alteration in the structure of the lungs, than either of the above mentioned. Diffusive suppuration has now taken place in the pulmonary structure, and the semi-solid particles of lymph or blood which constituted the red granules of the second stage, have been converted into a grayish or reddish brown, or black pulmonary matter or pus. The suppuration is now diffused in the form of purulent infiltration, and does not form circumscribed abscesses, owing as it is supposed to the porious character of the lungs, not offering that resistance which is met with in other portions of the body. This porosity gives a free passage to the air into the surrounding sounder tissue, and also into the inflamed portion, which causes the suppurative process to supercede the adhesive;

and so no wall of circumvallation is formed by the coagulable lymph as is the case in cellular tissue not accessible to air. The lung becomes more dense and solid, and so friable as to be reduced by slight pressure between the fingers, to a gray pulp. If a piece of it be sliced off, whitish or grayish granules may be seen, or minute drops of pus upon its cut surfaces. Gangrene is sometimes, though a very rare sequel of pneumonia. It is said to be almost as uncommon as the formation of an abscess, from the same cause. Its most characteristic symptoms during life are the purulent expectoration and foetid odor to which it gives rise.

These morbid changes may take place in one or both lungs, in a part or the whole of it; but usually the right lobe is more affected than the left, and the part of it which seems most obnoxious to the inflammation, is its lower portion. The mucous membrane of the lungs and small bronchi is nearly always involved in the inflammation of the structure of the lungs; hence the constant attendance of bronchitis on pneumonia. They become red and inflamed, presenting somewhat the aspect produced by acute bronchitis. The other organs of the body present no constant lesions. The cavities of the heart are sometimes found distended with dark grumous blood, and the spleen congested and rotten.

General Symptoms:—

An attack of pneumonia is often very insidious in its character; for a degree of inflammatory action may and often does exist in the lungs for many weeks without producing any serious derangement in their structure. Neither are there any well marked symptoms which would render us certain in the onset, in regard to its true nature, being ushered in by a set of symptoms common also to other diseases. But when these symptoms are somewhat developed, they are each stamped with peculiarities which identify the inward affection, of which they are the outward signs. Its approach is usually announced by rigors, followed by fever of an inflammatory character, and generally very intense. But as these symptoms present a striking analogy to those which characterize other complaints, as well as peculiarities which distinguish each, it will become necessary to consider them in detail.

I. Pain:—

This usually takes place very early, either simultaneous with or a little after the fever consequent upon the shivering. It varies much in degree, being most intense in the beginning of the disease, declines gradually, and ceases sometime before the pneumonia. For the first day or two, it is sharp and lancinating, showing that the inflammation of the lung is accompanied with some degree of dry pleurisy.

It then becomes dull and diffused, often a deep seated feeling of heat and weight rather than pain. The points at which it is usually felt are under the sternum, breast or scapula, sometimes in the hypochondriac region, and when of a lancinating character, in the side. It is aggravated by cough, long inspiration and pressure.

III. Dyspnoea:—

The breathing is quick and hurried, and more distressing to the patient when lying on the sound side. The number of respirations which in a healthy adult is about 20, may rise to 30 or more in a minute. The difficulty of breathing, though not always, yet generally bears a relation to the extent and intensity of the inflammation, and is greater when the inflammation is seated in the upper lobes of the lungs. In some cases it is slight, in others so excessive as to compel the patient to assume a particular posture, which is on the back, with the shoulders elevated. The countenance becomes dusky or livid, the alae of the nose expanded, the chest presenting but little motion on inspiration and expiration, the breathing being mostly abdominal. In favorable cases, although the dyspnoea diminishes, yet traces of it often remain after the pneumonia ceases.

III. Cough and Expectoration:—

The principal peculiarity about

the cough of pneumonia is that it takes place in single efforts, and is not paroxysmal as in most other affections. For the first day or so it is dry, or else accompanied with slight mucous expectoration, resembling that of bronchitis. It seems to undergo no exacerbation towards night, and bears no relation to the intensity of the disease. On the second or third day, the expectoration assumes that character which is pathognomic of the disease, consisting of what has been called rusty colored sputa, which is very tawny and viscid, forming a homogeneous mass, and adhering tenaciously to the sides of the vessel in which it is deposited. This condition of sputa which is formed by an amalgamation of mucous and blood, marks the stage of red hepatization. The expectoration is sometimes entirely absent, and is not one of the necessary accompaniments of pneumonia, but is a positive sign when present. If the disease progresses favorably, the sputa becomes less and less rusty, and more like that of ordinary catarrh; if unfavorably it assumes a brownish red color, or a dirty mucous, or an opaque dirty brown greenish mucous, consisting of mucous and pus, with a little blood. But very often it is suppressed altogether, owing to the extreme viscidity it acquires, and the inability of the patient from weakness to expectorate it. This marks the third stage of the disease.

Delirium is a symptom sometimes met with in pneumonia, and though of trifling impor-

lance in other affections, augurs here the most serious consequences. It denotes that inflammation of the lungs has so far extended, as to interfere with its functions, and that the circulation of venous blood is going on in the brain. The pulse varies in its character according to the progress of the disease, at first it is hard and strong, and then becomes quick soft and compressible. Other symptoms of fever are also present, such as thirst, loss of appetite, furred and dry tongue, scanty and highly colored urine, headache; and the blood exhibits the buffy coat. A fatal termination of the disease is usually preceded by a very quick and thready pulse, loaded dry tongue, dirty and viscid sputa, retaining its sanguinolent hue, or it may be entirely suppressed; the countenance pallid and cadaverous, the skin cold and bedewed with cold sweats, hurried or gasping breathing, with a rattle in the throat, delirium and finally death.

In favorable cases there is a general alleviation of all of the symptoms, and the amendment is often accompanied with some critical discharge, such as profuse perspiration, a lateritious deposite in the urine, copious expectoration, diarrhoea, epistaxis, hæmaturia, or some other hæmorrhage. The symptoms which are most likely to linger for some time after the abatement of the disease, are the cough, quickness of pulse & slight dyspnoea.

These, while they remain, should teach the patient to be cautious, and to guard against a relapse which slight causes might occasion.

We pass now from the consideration of symptoms denoting derangement of function, and declaring themselves through the system at large, to those which arise from alteration of structure, and are made known to us mainly by the assistance of the ear.

Physical Symptoms:—

If the ear be applied over the inferior and posterior portion of the chest, when the lung has arrived at that stage of incipient inflammation, denominated the stage of engorgement, we hear minute fine crepitation, by some called crepitant rhonchus, a peculiar crackling sound, like that heard when salt is thrown on a piece of hot iron, or like that produced by rubbing a lock of hair between the finger and thumb near to the ear, or the rumpling of a very fine piece of parchment. At first this sound may be heard in connection with the natural vessicular breathing, which leads us to infer that the inflammation is but slight. But when the minute crepitation advances so far as to mask the respiratory murmur, it denotes that the pneumonia is passing from the first to the second stage—that of red hepatization. With regard to the true cause or nature of this sound, there are two views. The first is, that it is produced by the formation and bursting in quick succession of a multitude of little air bubbles, as they

pass through the serum effused into the smallest air tubes and vessicles, and that it differs only in degree, from small and large crepitation.

Another explanation given is, that the minute bronchial ramifications are narrowed and partially obstructed, by being pressed upon by the interstitial serous effusion and the distended blood-vessels distributed between and around them, that these tubes are lined by a viscid mucous which causes their walls to cohere, and that the air passing in and out, disuniting their adhering surfaces, produces the sound in question.
Further information may be gained in regard to the true condition of the lungs in this stage, if resort be had to percussion, which will give a sound rather duller on the affected side than on the opposite, owing to the diminished elasticity and permeability of the lung on that side produced by the effused fluid.

When the inflammation has passed from the first to the second stage, that of red hepatization, a new sound becomes audible. Instead now of hearing minute crepitation, a whiffing sound is produced, like that caused by blowing through a quill, called bronchial respiration. This sound is not heard in a healthy state of the lungs, because of the imperfect conducting power of its spongy texture, which intervenes between the ear and the tubes. But when consolidation has taken place from disease, the density

of its structure is increased, which augments its conducting power and affords a ready transmission of the sound to the ear. Bronchial respiration is usually attended with bronchophony or increased vocal resonance, as they depend upon the same alteration in the condition of the lungs, and indicate the same morbid change. This is a sound caused by a modification of the voice in passing through the bronchi and condensed lung to the ear. It resembles that produced by speaking through a tube, and is best heard in the mammary scapular & axillary region. At the same time, if the hand be applied to the chest, we observe another auscultatory phenomenon. A sensation is distinctly felt, called a vocal thrill or fremitus, and is produced by the ready transmission of the vocal resonance of the tubes to the walls of the chest. We have now also dullness in percussion, though not so decided as where there is pleuritic effusion. We gather further from simple inspection of the chest, that there is a diminution in the contraction and expansion of its walls on the affected side. We observe no fullness of the intercostal spaces or signs of displacement of the internal organs.

The physical signs of the third stage differ but little from those of the second, unless there be liquefaction of the effused matters, in which case we have gurgling crepitation, or mucous rhoncus. We judge that a transfer has taken

place from one to the other, mostly by the duration of the disease, the general symptoms and the change which takes place in the expectoration, which becomes purulent, consisting of pus, or a fluid colored like liquorice water, or even portions of the disorganized lung itself.

These are the principal physical signs which arise during the progress of acute inflammation through the successive stages of engorgement, of red and of gray hepatization; and though all of them may not be present, or well defined in every case, yet when observed, they speak a significant language, and become important guides in directing the proper treatment.

When properly studied, not as isolated facts only, but in connection with the general symptoms, we are furnished with an array of signs which clearly reveal the disease to which they belong. But as pneumonia has often been confounded, with other affections of the chest, especially pleurisy, it may not be out of place to add a few diagnostic marks by which the discrimination between them may be facilitated.

Diagnosis:—

In the very commencement of an attack of pneumonia or pleurisy, the only symptom which would lead us to suppose that one was about to take place rather than the other, would be the fever

which is much more intense in the onset of pneumonia, than in pleurisy, and in the former case, greater than the local inflammation would seem to justify, but in the latter much less. Another symptom which would be worthy of notice should it be present, is the pain being of a lancinating character in pleurisy, but dull and oppressive in pneumonia. This symptom however is not of much diagnostic value, as pneumonia is often complicated with a certain degree of dry pleurisy, in which case the pain is common to both affections. But as the disease advances, a new set of symptoms arise, and the diagnosis which was at first doubtful, becomes both easy and conclusive. If, for example, pneumonia be present, the ear soon detects minute crepitation: if pleurisy, we hear a dull respiratory murmur on the affected side, while on the sound side it grows noisy and puerile. In pneumonia we have dullness on percussion which does not change its seat from variation of posture. In pleurisy, the dullness is more decided and shifts its place according to the position of the patient. In pneumonia, we have bronchial respiration, and bronchophony - in pleurisy, a sound under certain conditions very much resembling aegophony. In pneumonia, we have vocal thrill on application of the hand, in pleurisy it is entirely absent. In pneumonia, we have no alteration of the general conformation of the chest: in pleurisy, there is enlargement of the affected side, increased prominency of the intercostal spaces, with displacement of internal organs.

In pneumonia there is rust colored sputa; in pleurisy, there is none, or if any, it is catarrhal.

Varieties and Complications:-

There are several varieties of pneumonia which are worthy of consideration. The first which we shall mention, is Typhoid pneumonia, which may be either primary or secondary. Primary, when it takes place in debilitated constitutions, having a dynamic symptoms from the very commencement. Secondary when it succeeds other diseases, as Typhoid fever, delirium tremens the exanthema and chronic diseases. In either case there are symptoms, differing considerably from that form ~~that form~~ of common pneumonia which we have described as the great type. We have in addition to the local symptoms of pain, cough, disordered breathing &c, great derangement of the whole system, manifested by a quick and small pulse, the skin being somewhat elevated in temperature, or else covered with a cold and clammy sweat, sometimes with a dusky rash, or with petechial, the tongue being furred & brown, the alvine evacuations dark and offensive, and the urine scanty & turbid. The physical signs are not very well marked. Generally there will be dullness on percussing the posterior part of the chest, and on applying the ear to the same region, a whiffing sound may be heard

scarcely distinguishable from bronchial respiration. In most cases minute crepitation is entirely absent, or soon ceases if present. On examination of the anterior portion of the chest, we find the breathing attended with sonorous and sibilant rhonchi. If the lung be examined after death, it will be found in a state of deep congestion, soft & easily broken down, with portions of it presenting the appearance of being hepatized.

Another form is pleuro-pneumonia - consisting in inflammation both of the parenchyma of the lung and its lining membrane. The general symptoms do not differ materially from those produced by simple inflammation of the structure of the lung. The physical signs are those of pleurisy and pneumonia combined.

Bilious pneumonia is another term used when the bilious symptoms seem to predominate. The most frequent complications of pneumonia are bronchitis and pleurisy. The bronchi as was observed in treating of the pathological anatomy, are nearly always involved in the inflammation of the lungs: so also is the pleura; but owing to the enlargement of the lung by consolidation, filling the entire cavity of the chest, there is seldom any effusion of serum.

Causes of Pneumonia:-

The causes of pneumonia may be divided into two classes - the exciting and predisposing

causes, or those cases in which it comes on as the result of other diseases. In the first class may be ranked cold and moisture, which are by far the most common causes, and those to which in a majority of cases the attack can be traced. In the second class rank bronchitis, pleurisy, congestive fevers, diseases of the heart, asthma, hooping-cough, measles, small-pox and catarrh. Upon any of these affections it may supervene either as a result of a direct transfer of the inflammation to the lungs, or of the pulmonary congestion which they occasion, by deranging the passage of the blood through the lungs. With some of them, as hooping cough measles and small-pox, it is almost a constant complication, and becomes one of the chief sources of danger. The disposition to pneumonia is much increased by long continued exercise of the lungs, and by having once had the disease.

Duration:-

The average duration of pneumonia is about ten days, but cases have occurred which have proved fatal in four days; others have lasted from two to six weeks. It prevails most during the winter & spring, and may occur at any period of life, though the middle-aged, strong, & robust are most liable to an attack.

Prognosis:-

In order to give a correct prognosis

of pneumonia, it is highly essential that we should be thoroughly acquainted with the diagnosis, meaning thereby, not merely the simple recognition of the disease, but a full acquaintance with the true condition of the lungs, the successive stages through which the inflamration may have passed & its precise extent and situation. These items considered in connection with the complications and constitution of the patient, furnish us with the necessary data for predicting the issue of the disease.

With regard to the prognosis of the three stages which may present themselves, the third is much the most grave. The first and second may be recovered from, but it is very doubtful whether the third ever is. The extent and situation of the inflammation also increases the gravity of the prognosis, double pneumonia being much more dangerous than single, and inflammation of the upper lobe being more fatal than that of the lower. Of the general symptoms, those which are particularly of bad augury, are excessive dyspnoea, feeble pulse, delirium and very rusty viscid or plum-juice sputa.

Treatment:-

The principal remedies employed in the treatment of pneumonia, are blood-letting both local and general, tartar-emetic mercury and blisters.

Treatment of first stage:-

It is in the stage particularly denominated the stage of engorgement, that blood-letting one of the most heroic of the remedies mentioned, enjoys its highest reputation. Upon the utility & efficacy of its employment here, all are agreed. This indeed might be expected when we consider the great danger to which the lungs are exposed while laboring under a distention of its great pulmonary plexus of blood vessels; one of the objects for the removal of which venesection is employed. But by depletion we not only relieve the distention, and thereby the pain & dyspnoea, but diminish the ~~the~~ force of the heart and arteries, prevent the effusion of lymph, the obliteration of the spongy texture of the lungs, and the further propagation of the inflammation. But, beneficial as it is, much depends not only on its early employment, but on the manner in which it is performed, the quantity of blood drawn, and the frequency of its repetition. The patient should be bled in an upright or slightly reclining posture, from a large orifice and in a full stream. The quantity to be taken at one time cannot be defined with any degree of precision. As a general rule it should be suffered to flow until some marked impression be made upon the system, until the occurrence of faintness, sickness, diminution of pain or dyspnoea, or until it produces actual syncope. Should a repetition of the

bleeding be required, it will generally be indicated in four or five hours after the first venesection, at which time it may be repeated, and as often afterwards as the strength of the patient will allow. As the affected side may sometimes be benefitted by local depletion, we may use cups or leeches as auxilliaries to the lancet.

Antimony:— We use Tartarized Antimony in this stage, not to the exclusion of the lancet, but merely as an adjuvant, when bloodletting has been carried as far as the circumstances of the case will permit or when debility of the constitution prevents its use altogether. If properly administered after judicious blood-letting, it produces the most beneficial effects, and often prevents the necessity of further abstraction of blood. The plan of administering it in this stage is usually as follows:— After free bleeding, give from ½ gr. to 2 gr every 2, 3, or 4 hours in a half wine-glass full of water. Should vomiting and purging be excited as is sometimes the case before tolerance is established, a few drops of laudanum should be added to each dose. Its antiphlogistic effect, is said not to depend upon its nauseating, emetic, purgative, or diaphoretic results; for it seems to be quite as successful if not more so, where none of these are produced. Others have recommended its use in larger doses, with a view to its sedative or constrastimulant operation, given in doses from 1 to 2 or 4 gr., or more every two hr. This plan would doubtless be successful in

some sthenic cases, when made subsidiary to blood-letting, and when the stomach could bear it. More however than 10 or 12 grains in 24 hours is of doubtful efficacy, and usually a much less quantity will suffice. Another practice which has been pursued in this stage, is the administration of calomel combined with Opium, and given with a view of slightly affecting the gums. Ipecac may sometimes be added to the combination with marked advantage. With regard to the quantity of each which may be administered at a dose, we must be governed by the features of the individual case. Less acute cases & those bearing a semblance to continued fever, require much less than the more acute and sthenic cases. The action of each individual remedy is as follows:- The Opium allays the pain and cough, and acts as a sedative in quieting nervous irritability, so frequently caused by great abstraction of blood. The mercury as an antiphlogistic prevents effusion and promotes absorption, counteracting at the same time in connection with the previous blood-letting, the primary stimulation of the Opium. The chief advantage of the ipecac is to determine to the skin. This plan of treatment, though very good, is not comparable to the antimonial, and is better adapted to the less active forms of the disease, and to those cases where antimony cannot be used because of the irritability

of the stomach. In very acute cases uncomplicated with gastric affections, the mercurial and antimonial treatment may be combined, giving from 5 to 10 gr of calomel with ½ or 1 gr. of Opium, every 4, 6, or 8 hr., and the antimonial draught during the interval. If the bowels be too much acted on by the calomel, give in its place Hydr. C. Creta. When improvement takes place, the calomel may be given only once, or omitted altogether, continuing the use of the antimony.

Treatment of the Second Stage:-

When the lung has passed into this stage of inflammation, effusion has already taken place, the cellular structure of the lungs is obliterated, and portions of it (obliterated) solidified. Copious bloodletting now as well as other depressing means, so far from being useful are often even harmful. But, under certain circumstances, small bleedings are attended with the happiest effect; as they diminish the increased quantity of circulating fluid through those portions of the lungs which are still pervious, and facilitate the absorption of the effused lymph. The indications for it however should be clearly marked, and when resorted to, it should be pursued with great caution, as we may so weaken the patient by it, as not to leave him sufficient strength to expectorate. This is what takes place in those cases in which

the expectoration is said to be stopped by bleeding. The object being in this stage to modify the action of the diseased vessels, and to promote the absorption of the effused matters, we have no remedy equal to mercury. It may be given in quantities of 1 gr. every hour, or 2 gr. every hr, or 3 gr. every hr, combined with Opium or Laudanum according to circumstances, and pushed to slight ptyalism. If it be slow in bringing about its constitutional effects, it may be assisted by rubbing in the mercurial ointment. To procure the further absorption of portions of consolidated lung, which often remain after the inflammatory action has been subdued and the excitement abated, we may use externally counter irritants, and internally a combination of liquor potassae and hydriodate of potash with a decoction of senega or sarsaparilla. The reliance to be placed upon expectorants contrary to what might be expected is very small, and they are generally inadmissible until the excitement has subsided. Blisters which cannot be used in the first stage owing to the excitement are used here with the greatest advantage. They should be large and reapplied, or kept running according to circumstances. Here, as in other diseases, when the vital powers give way, and symptoms of prostration appear, we must administer stimulants such as brandy, Carb. Ammon., Ether, Vine &c.

Third Stage. Treatment:-

In the treatment of this stage, we must be guided more by the general symptoms than the physical signs. The only remedies to be thought of, are those of a stimulating character, and even these are rarely, if ever, attended with any success. Should the breath and expectoration become fœted, with adynamic symptoms, stimulants must be used yet more rigorously. Benefit may also be derived from chloride of lime and Opium, and, according to Laenec, large doses of quinine or bark.

Diet and Regimen:-

The diet should be strictly antiphlogistic during the early stage of the disease, being confined mostly to mucilaginous and farinaceous substances. In the course of the disease, animal jellies, beef-tea, and other digestible articles may be allowed. The patient's room should be well aired, without draught, and his position such as to elevate his chest above his body.

An
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Submitted to the examination
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Richd H. Corman of
Maryland
1849

Hemorrhage implies the escape of blood, from a divided vessel, or vessels - It may proceed from an artery, or a vein, or from both -; but hemorrhage, from arteries, is that which we have chosen, for the foundation of the following remarks -

Perhaps, no subject, in all the department of Surgery, is more replete with interest, or whose immediate consequences, of more moment, than the flowing of blood, from divided, or wounded arteries; none requiring more coolness, & promptitude, on the part of the Surgeon; - none better showing the activity of Nature, in repairing vital lesions; - or illustrating the beneficial effects, of judicious, & well directed art - The exertions, which Nature makes to retain the life, which is ebbing out, call into existence the old "vis medicatrix" - She stays the hand of Death; - & stops the stream, which bears in its ruddy current, the warmth of life, & vitality

To understand the manner, in which hemorrhages are arrested, we must go to the structure of those vessels, whose wounds become of a serious nature. Arteries are composed of three coats; an external cellulo-fibrous coat, firm, & strong; of a middle; that, upon which, the thickness of the artery depends; of a yellowish colour, & brittle so as to be cut through, upon the application of a ligature; & of a serous, or internal coat, lining the interior of the vessel. It is continuous with the lining membrane of the heart, & with that of the veins, through the medium of the capillaries. The artery is enclosed in a sheath of cellulo-fibrous texture, generally containing a vein, and a nerve. The sheath plays an important part, in Nature's process for suppressing hemorrhage; but the coats of the artery, particularly the two inner, exhibit their importance more conspicuously, when the ligature is applied; for it is upon the division of these two coats, that the efficacy of the ligature depends; adhesive inflammation coming on, lymph being thrown out, & the canal renderd impervious

Although the manner in which hemorrhage is arrested, is well understood at the present day, yet we must not presume that the ancients enjoyed the same degree of knowledge, respecting the operations of Nature, and the best resources of Art, in suppressing flows of blood. Surgeons, for a long time, attempted to effect this object by drugs, styptics, and the terrible means of fire. It would seem at first strange, that this subject should have been so little comprehended, a subject of such vital consequence, and of such universal occurrence. But the ancients were strongly prejudiced against post-mortem examinations; the means for accurately investigating the changes which wounded vessels suffered, they did not avail themselves of; and consequently, unsupported by facts, and experiments, by possessing, in a great measure, guided their actions. Hence, although the works of the ancients contain valuable information on other subjects, they are comparatively barren on this head.

Petit, in 1731, first attempted to give some account of Nature's process in suppressing hemorrhage

He conceived that hemorrhage, from a divided artery, was stopped by a coagulum of blood partly within, & partly without the vessel: that, without, ~~he thought~~ formed he thought, by the last drops of blood, which issue; & that within, by the blood contained just within its divided extremity - The clot, he says, afterwards adheres to the internal coat of the artery, to its orifice, & to the surrounding parts; similar, to which is the clot formed after the application of a ligature, differing only in figure

In 1736 Mr Morand added some interesting observations. He, at the same time admitting the formation of a coagulum, spoke of certain changes, which the artery undergoes - These changes, he called, a corrugation of the circular fibres, & a shortening of the longitudinal ones; evidently meaning contraction, & retraction - His error consisted in imperfectly describing how these changes were produced, attributing too much to the bare existence of the fibres of the vessel. This theory of retraction, and of the coagulum was denied by M. Pouteau. He considered that the suppression of hemorrhage was due to the tumefaction of the cellular tissue at the cut extremity of the artery; & affirmed that the application

of the ligature was effectual upon the same principle

Various theories, have been given upon the subject of arresting hemorrhage, some conflicting directly with others but all ascribing some share to Nature in the process; acknowledging that conservative principle, ever ready to restore wounded or injured parts. The one which prevails at the present day - is that of contraction, and retraction and of the formation of coagulum - It is based upon experiments, & careful observations, and is now acknowledged to be the true & correct one -

The theory of Mr. J. Bell, in his "Principles of Surgery", differs materially from all those stated above He denies the "retraction of the artery, the contraction of its fibres & the formation of clots" and attributes the principal part of Nature's process to an "injection of the adjacent cellular tissue" - He says "the stream of blood gradually lessens - because the artery is emptied, and the resistance to the arterial action taken away; and that the blood no longer driven by the arterial contractions forsakes the open vessel & moves along the neighboring branches;" He admits the extravasation of blood into

the cellular tissue; the coagulation of this blood, & of its capability of acting as a barrier to the further effusion of blood. — What is this but admitting the existence of the "clot"? or does he draw a distinction between a "clot" which he says has nothing to do with suppressing hemorrhage, and the coagulation of that blood", extravasated in the cellular tissue", — which he admits to be an effectual barrier to hemorrhage in slight cases; — a temporary resource until the vessel shall have inflamed & permanently occluded

The true manner in which Nature does arrest hemorrhage is by bringing into play all the parts connected; the blood, the structure & action of the vessels, the sheath & the cellular substance surrounding — When an artery is first divided, the first things, that strike us are the sudden gush of blood, a forcible retraction within its sheath, and a contraction of its cut extremities — These are the immediate & almost simultaneous effects of the division, effects which necessarily result from the structure, and elasticity of the parts. In a state of health, arteries possess considerable degree of tension; their walls are distended, and any force which interrupts the continuity of the vessel, must-

produce a retraction and contraction. Anything tends if confined within a sheath, and then ruptured, will exhibit these effects; and more especially if it be a vital, organized body. The sudden gush, which the blood makes, on the first opening of an artery, tends in some measure to interfere with, this retraction, and contraction; but this impetuous force does not last long, for soon the patient becomes faint — the blood welles out slower, & slower, and the changes in the artery are suffered to go on. In addition to these changes in the vessel, another circumstance strikes our attention; this is the formation of a coagulum. The blood, no longer driven with such force, which characterized its first issue, now begins to stagnate — it is caught & entangled in the lacerated fibres, which connected, the sheath with the artery. This laceration produced by the receding of the vessel. The cellular texture around, also restrain the coagulating blood, & soon a temporary barrier is formed, to become in the end, under favorable circumstances the permanent means for arresting the hemorrhage. For this clot, we shall see after the exudation of fibrin, being absorbed, the lymph organized & the impervious cord remaining

This coagulum, then, formed without the vessel, partly within the sheath, from which the artery has retracted ~~upon the~~ and partly in the cellular tissue is called the external coagulum, and affords the first barrier to the effusion of blood — The blood, within the vessel, not escaping on account of the presence of the external clot, stagnates, & forms a coagulum of cylindrical shape, whose base rests on the external coagulum & whose circumference corresponds with the cut extremity of the artery. The apex of this cone reaches to the nearest branch. The faintness induced by the loss of blood & the diminished action of the heart materially contribute to the formation of these coagula which are but temporary plugs, liable to be broken up, when reaction comes on, and only of use to put off, or delay a fatal issue until a more permanent means shall have been established — Hence Hunter's hæmostatics have been divided into temporary that is the coagula; & the permanent or the organization by coagulable lymph which is thrown out by the inflamed cut surfaces of the vessel —

This fibrinous exudation, which takes place copiously, unites with the adjacent portions of the Coagulum the colouring matter of which, according to some is absorbed; and according to others, the whole coagulum is absorbed & removed by the lymph. The lymph, then, with the decolorized blood is organized, the coats adhere by new & living texture & the orifice is permanently sealed. This plasma, besides sealing up the opening of the vessel, is effused into the surrounding cellular texture, which becomes condensed & indurated, maintaining by this acquired property, the newly organized plasma. The coagula, now no longer wanting, are absorbed, following the law which removes all redundant & useless parts. The fibrinous exudation, which was infiltrated into the cellular texture, after a time is subjected to the same process, & the parts resume their normal appearance. The orifice, too, with its obstruction, suffers a similar change & the arterial canal, which had contracted into a conical form gradually lessens in size, the coats ultimately adhere, & the canal becomes wholly obliterated, and

finally degenerates into a mere thread. These circumstances happen to the distal as well as the cardiac extremity - with this difference that the distal is more contracted, & the coagulum smaller than the one which adheres to the cardiac orifice -

This process of Nature's hemostatics says Dr. Miller, resembles that by which a broken bone is united, first blood is effused, which coagulates then lymph is thrown out, and the coagulum absorbed the plasma then, "at first bulky, & redundant is organized" - Lastly the adventitious structure is absorbed and the parts return more, or less, to their normal state

The fact of these changes, in the artery, and the formation of clots, has been established, by experiments, Jones in his work, on "Hemorrhage" details a number of cases - where experiments were made on horses, and other animals, conclusively establishing this mode of Nature's hemostatics; and although Mr. J. Bell denies the existence of the changes in the arteries of the coagulum, the facts drawn from the experiments of Jones, are more to be relied on -

It will at once be seen, that the most favorable circumstances, under which, this process will take place, are to be found in the case of a complete division of all the arterial tunics. Here the powers of Nature are unimpeded in their operations; The contractility and elasticity have full power to exercise themselves, and coagula quickly forming, the wounded vessel is presently closed. We may remark here that the internal coagulum, does not contribute much to the suppression of hemorrhage - as in some cases its formation is uncertain, for example in wounds near to a collateral branch; but the external coagulum is always formed.

Some have accused the coagula of a tendency to prevent closure of the wound, & to promote secondary hemorrhage, owing to putrefactive decay from access of air, and to suppuration. This position, however, cannot be held if we consider the many experiments which have been made, all going directly to contradict the statement, and to establish the opposite.

Where an artery is lacerated, the hemorrhage is always less, and the arrest to the flow, always takes place more quickly - Here, the inner tunics those which are divided on the application of a ligature, are put upon the stretch, and severed in so many places - The blood, becoming entangled in these little vessels, forms so many coagula, which act as mechanical obstacles - The neighboring parts too, being rough, and torn, stop the blood effused; and favor more completely, the formation of the external coagulum - The surface lacerated, holds the blood, as it were in so many little pits, and allows it stagnate, and clot - and the serrated margin, formed by the projection of the little coagula on the internal surface of the vessel, materially assist the arrest of the hemorrhage -

This case, of a lacerated artery, may be considered the most favorable condition, for the performance of Nature's hemostatics; and accordingly we find the hemorrhage under these circumstances less and soonest stanched.

In case of a punctured artery, the relative position of the wound in the sheath, and of that in the artery is altered; by the pouring of blood separating and distending the sheath. By this means a coagulum is detained, the sheath overlaps the orifice, and the hemorrhage, temporarily at least, is suppressed — If no reaction, sufficient to break down the coagulum comes on, it will remain, & undergo the same processes of absorption & organization, which were noticed in cases of complete division. If the wound be more than a puncture, be something of a transverse or oblique wound, the hemorrhage is capable of being arrested in the same way — but the canal is apt to be obliterated, owing to the extent of the coagulum necessary to be thrown out — The lips of the wound may heal however, by the exudation of lymph, from their inflamed surface, & cause little, or no obstruction to the canal

If the wound be large, and extend through nearly the whole circumference — the undivided part will generally be severed, by the traction consequent upon the elasticity of the coats — or else the irritation, produced

by this stretching, will cause ulceration, and division. The case then becomes one of complete division, and the natural hæmostatics are exerted in the same way as in the case of an original division —

Thus one of the most formidable accidents to which we may be subjected to, finds in the person of Nature herself — a prompt & efficient support — The blood-vessels, containing in themselves, the current of life, hold at the same time the elements of their own reunion in case of a division — The formative substance, the matrix, from which — all tissues are ultimately formed, is here ready ready to be thrown out; and the lymph, which closes the gaping surfaces of large wounds, closes the small, orifices of bleeding vessels —

We have now considered the part taken by Nature in arresting hemorrhage — or natural hæmostatics; — there remain now, the various means resorted to by Art — among which the most important is the ligature; a means more to prized in than any other —

Celsus was the first who recommended the use of the ligature, with a view to arresting bleeding vessels; and Ambrose Paré brought it into more general practice. Rufus, an Ephesian who lived about the time of the Emperor Trajan A.D. 96 is said to have applied a ligature to an artery wounded in venesection & which had become aneurismal —

The use of the ligature may be deemed applicable to all wounds of large arteries, & ought to be resorted to in all cases of hemorrhage, where other means as torsion, pressure, cold, styptics &c have failed — In the removal of tumors, & in small operations, these methods will generally suffice; but if the ligature is deemed likely to be used, it is thought better to use it at once; for the vessels may spring, after having been temporarily arrested by pressure &c; a new opening of the wound, a source of pain & irritation to the patient, is necessary; & perhaps before the ligature can be applied, a fatal hemorrhage may come on — a circumstance which would have been avoided, had an early, and judicious use of the more certain means been practised

The manner of applying the ligature is by seizing the bleeding orifice, with a tenaculum, or forceps, pulling it out & dissecting it away from the surrounding parts so that no vein, or nerve shall be included — The ligature is then applied with sufficient force to sever the two inner coats — by this means causing inflammation, & adhesion of the cut extremities of these tunics — If the artery be imbedded in a dense mass of soft parts, it is sometimes necessary to pass a curved needle, & include a considerable portion of the soft parts in the ligature — This should be avoided if possible, for a large amount of slough is rendered unavoidable — & the danger of secondary hemorrhage much increased —

After the tying of ligatures, the general rule is to cut off one end & leave the other in the wound; but if the wound is to be left open to suppurate, both ends may be cut off, & the knot left to come away with the discharge — if the wound is to be closed forever, one end should be left hanging from the wound — Some surgeons, as Mr Lawrence, & Liston, cut both ends off, in all cases. But this practice does not seem as good as the above mentioned; for the knot if it has not been discharged with the first suppuration, will

remain as a foreign body, & as such must be got rid of - by subsequent ulceration, Abscesses hence are likely to form, & involve important parts; large vessels may be implicated in the spreading inflammation, and a serious secondary hemorrhage may ensue - Ferguson, however, says that he has seen Mr Syers, practice in this way invariably, cutting off both ends & still no bad consequences ensue at least in every instance -

The first effects of the ligature are to divide the two inner coats; & to allow the formation of a coagulum within the artery, provided no collateral branches very near - But were this all, if strong reaction were present on removing the ligature, secondary hemorrhage would come on. Permanent occlusion of the canal is effected by the exudation, & organization of lymph, from the inflamed cut surfaces of the inner tunics; the wounded surfaces are thus united, & the canal rendered impervious. Lymph is also thrown out in the part surrounding the artery, so that the extremity of the vessel is enveloped in lymph & covered with a layer of it - After a short time the ligature causes ulceration in the part around

which it is immediately applied - & "acting as a tent a small aperture is formed in the layer of lymph effused over the artery; through this aperture, a small quantity of pus is discharged, as long as the ligature remains; & finally the ligature itself escapes; & the little cavity which it has occasioned granulates & fills up - the external wound healing in the same manner" (Jones)

The permanent changes which the artery undergoes, are similar to those in the case of a divided artery - The portion of the arterial trunk which has been tied undergoes a gradual contraction & obliteration to the first collateral branches & finally diminishes down to a mere fibre - The increased amount of circulation, necessary to be carried on the collateral branches, occasions an increase in their size - which is proportioned to the exigencies of the case -

Different materials are used by different surgeons, for ligatures, the one in most common use - is the Dentist's silk - & may be considered as good as any other - Some prefer animal material, alleging that this will be absorbed; thereby avoiding the ne-

cepity of being got rid of by subsequent ulceration — Whatever the material used, it should be clean, and round, & generally of a small size; and when applied it should be tied sufficiently tight to secure the two inner coats & not tight enough to wound the external —

In addition to the ligature, there are several other means, in use for arresting hemorrhage — such as torsion, cold, pressure, styptics, cautery actual & potential — The ancients used after amputations to plunge the stump into boiling oil, or pitch; a practice flagrant, & liable to the occurrence of secondary hemorrhage — For a large amount of sloughing ensuing inevitable, & an exposure of the patulous orifices of the severed vessels, highly probable —

In situations, when the wounded artery cannot be easily reached, or the ligature cannot be effectually applied — we may resort to the means above mentioned, using the cold, or pressure, or the cautery, as the case may seem to demand — Sometimes, blood itself is made the instrument for arresting hemorrhage, as in cases of bleeding from the nose, or vagina = we plunge the

nostrils or vagina — & command the hemorrhage by the pressure exerted by the compressed blood —

This comprises the natural, & surgical hemostatics in arterial hemorrhage — These means are assisted by stimulants & general treatment; especially if the bleeding be internal or cannot be commanded by the ligature — Some aiet, cool drinks, & the natural means for moderating the force of the circulation should not be neglected —

The foregoing has been an attempt to show principally the changes induced in an artery upon the event of its being wounded, & the effects of the ligature — The time which has been consumed, & the necessity of attending to many other things, which claims are strong, forbid anything like an elaborate thesis upon "Hemorrhage" at large; & to enter fully into the various departments included under that generic title is equally prohibited

An Inaugural Dissertation on Mutability of Medical Practice;

Submitted to examination of the Provost, Regents and Faculty of Physic of the

University of Maryland;

for the degree of Doctor of Medicine,

by

Charles Henry Wharton Davidson of Maryland.

February 6th. 1849.

Mutability of Medical Practice

The most cursory view of medical literature of the past cannot but reveal to the mind of one conversant with that of the present, the extreme Mutability of Medical Practice; nor are these changes devoid of interest and instruction to the Physician, resulting as they do, from causes which imperatively demand modifications of practice, but the nature of which is yet in many instances obscure. They communicate many most important precepts, they teach him to adapt his practice to disease, as it occurs to him independent of its name and of the treatment previously recommended by others, when it is opposed to the dictates

of his own reason, or in other words, not to rely too exclusively upon previous experience, however essential a minor degree of confidence therein may be to a judicious physician, they teach him to avoid too hastily or too eagerly embracing theories which may lead to material errors, in short they teach him that the most successful practitioner is he who combines the most profound judgment with the highest regard for experience, two qualities of essential importance, each being ineligible as a substitute for the other.

Surely then a subject so important in its bearing upon the future management of dis-

case, and so interesting to the Physician, as a prominent feature of medical history, merits the most careful consideration. It must not be understood that it is my intention, to recount the innumerable changes that have occurred from time to time in this department of Medicine, but rather to investigate the principles of such changes, their causes had far they may have been or may be justifiable; their necessity, their influence &c. and to select from them such prominent examples as will lucidly illustrate my position in each case.

I hope the comments, I will make upon such selections, may not be deemed digressive

All the changes that have occurred, or can occur, in medical practice, have resulted from, or must result from, one or other of the following causes; - a change in our knowledge of Pathology, and consequently the art immediately springing therefrom, - the application of Therapeutical Agencies to the cure of disease, or from a change in the nature of one important division of the subject of Pathology - Disease. I do not mean by this to deny the participation of the recent advances of Physiological Science, or the more gradual, but not less certain disclosure of Chemical laws, in the establishment of those great Practical Truths, by which, we are now guided, indeed the

sciences of Physiology and Pathology to be profitably studied cannot be investigated seperately; the former however must act mediately, exerting no influence independent of the establishment of Pathological laws.

It will be inferred from what I have said that the term Pathology, as I use it, embraces more, than authors commonly allow, more particularly as it includes the principles of application of Therapeutical appliances, but in justice to the correct definition of Pathology I may observe that the influence of external agents, in modifying diseased action, is as much a part of Pathology as are the principles of the action of ordinary vital stim-

cli, a part of Physiology, and this latter fact is universally conceded to be true.

Medical practice may be modified by a change in our Knowledge of Pathology, whether such change be an advance or decline and of course, in this class, there are precisely as many separate sources of change, as there are subdivisions of Pathology. These alterations in Practice may originate in one of these sources, or from the conjoint influence of all or in other words from the institution of new facts, or the change or abolition of those previously received in any one of the departments of Pathology.

The changes, that have occurred in the use of Mercury well illustrate the truth of the

above remarks. Like all other remedies, the modus operandi of which we do not understand but of which the curative power in many cases is clearly manifest, it has been administered at different times indiscriminately in almost all the affections, to which the human race has been subjected, under the vague delusion of its general specific influence, in controlling diseased action and independently of the nature of that action. We know too that its administration has been obstinately persisted in, in maladies, in which it has been subsequently demonstrated to be decidedly deleterious, as for instance in Scrofula. But that time has passed

and if it is now sometimes employed injudiciously, it can result only from the most inexcusable ignorance. It is true, we cannot comprehend the precise character or quality of its alterative action, but we know its general Physiological effects, and we know the laws that govern its action, But the question naturally occurs — how has the discovery of these facts, which enable us to prescribe it not only with perfect safety, but with so great benefit, been effected? Certainly not through the blind Empiricism, by which our ancestors were almost solely guided. A more effective means of research was required to elucidate a subject so obscure. Chemical analyses of the fluids

and solids not only of the healthy organism, but of Patients labouring under all diseases to the cure of which Mercury had been deemed an adjuvant were to be made and also in all those diseases, in which from their analogy to the preceding, one might be led to suppose that Mercury would be efficacious. Nor does the necessity for Chemical investigation cease here; the influence of this agent over the Chemical constitution of all parts of the body, was to be ascertained: all this must have been accomplished before it could be rationally prescribed with a view to its Chemical effects. Again the assistance of the Therapeutist was to be invoked, with a view to the ascertainment of its vitae or

dynamical influence upon the economy, and the deranged conditions of the different functions to which it is applicable. A general knowledge of morbid anatomy was also requisite; indeed no department of Pathology has contributed so largely to the rational use of this remedy as this. By a combination, then, of facts deduced from investigations into the different branches of Pathology, the use of Mercury has been almost entirely suppressed in cases to which it is inapplicable, whilst its employment has been extended to all in which there is a chance of benefit resulting therefrom.

The above remarks are applicable not only to this, but

in the main to many other medicinal agents. Here then is a change of Practice, resulting not from investigation into any single division of Pathology, but from increased attainment in all its branches.

Changes of Theory, whether with regard to the action or effect of medicinal substances, or the nature of disease, whether from false to true or vice versa, or from one that is erroneous to another of the same character, exert a powerfully modifying influence upon Medical Practice; and this might be reasonably inferred, when we consider how frequently great minds are allured from the beacon of truth by the deception and attractive glare of false lights. Such an

instance is the attempt of Bell in support of one of his theories to promulgate the idea, that in one isolated case, the transmission of nervous influence to a particular muscle, causes relaxation of its fibre.—

Of the modifications of Practice originating from the above causes, many instances can be adduced. Some of the most striking are those which evinced themselves during the establishment and decline of the doctrines of Humoral Pathology. These changes occurred more particularly in some diseases, such as Fevers, Gout, Rheumatism et cetera, but also to a minor degree in most of the maladies of the Nosology. Unfortunately, in the pes-

formance of the requisitions, imposed by a support of this doctrine, every thing, that the patient most ardently desired for the alleviation of his suffering, was rigidly proscribed.

The indications of Nature, the result of the deep silent mysterious workings of the Organic Conscience, (if I may so speak) which almost infallibly point out to the Physician the proper course, were quite disregarded. With the departure from a comparatively rational system of medication, and the substitution of a very irrational one, the miserable patient was confined to a room, the temperature of which was oppressively hot even to one in health and honestly and conscientiously

measures adopted in the management of Fevers, has been singularily perfect, the substitutions being cold affusion, cold sponging, cool air &c, for the heating treatment above mentioned.

The theory of Broussais created an almost equal revolution in Practice within the sphere of influence, (which was by no means limited) of that celebrated Pathologist.

Springing up as it did among a people noted for versatility proposed and advocated by a man whose intellectual powers commanded the acquiescence of less gifted minds, one would suppose a priori that it had done much injury. This is not the place, however to discuss its

merits; one thing is certain it effected a very material change in Practice. Blood-letting and other measures, constituting with this the Antiphlogistic treatment together with the strictest regimen, were rigidly enforced in almost all diseases, some of which were diseases of debility, some essentially neurotic and both imperatively demanding Stimulants Tonics and the like. If however it has acted injuriously in this respect, that injury has in some degree been cancelled by its influence in restraining immoderate use of Purgatives and other irritating remedies. Upon the demonstration of the fallacy of this doctrine, there has

pened a retrogressive change of equal extent with the preceding, but of which it is unnecessary that I should say more.

Want of space compels me to abstain from the consideration of other examples which would illustrate equally well those changes of Practice originating in a change of our Knowledge of Pathology; I will therefore now proceed to investigate those arising from alterations in disease. It has been said and perhaps justly that there are no two cases of disease precisely alike, but the minute adaptiveness, which would be required to suit our remedies to so trivial a difference as exists between such cases as

we consider nearly allied to each other differing (for example) only in the intensity of a certain symptom, has not and probably never can be attained.

But there are greater differences, which, whether they characterize all the cases of an Epidemic, constituting what is termed Epidemic Constitution or affect isolated cases of Sporadic or Endemic complaints, demand a modification of treatment or regimen and this modification must be guided by the causes of the changes, which necessitated it. It may be, than an organ is implicated either primarily or secondarily, that has never previously been, producing a peculiar perturbation of the vital manifestations

independent of that resulting from the uncomplicated disease, and this disturbance will vary exceedingly accordingly as different organs are implicated or affected with different degrees of intensity, thus giving rise to every imaginary shade of difference in the symptoms.

Or it may be a peculiarity on the part of the particular organism, something in the constitution or temperament of particular individuals, inducing a change in the action of morbific causes, and as these Idiosyncrasies are innumerable so must be also the modifications of every disease. Or lastly it may reside in those inscrutable amosphenic conditions which have so long eluded

our efforts to detect them, but which no less certainly communicate their peculiar impress.

These and many other causes may act separately or conjointly in altering the general character of diseases. These changes in the nature of disease frequently occur without correspondingly great variations in its symptoms, in consequence of which the first cases, that are treated subsequently, are decidedly aggravated by the very measures we may have adopted to relieve it, indeed they may done irreparable injury, which is discovered too late to be rectified. There is yet another exceedingly unfortunate circumstance to be mentioned viz. that the indications, if any exist, by which we might hope

to prognosticate the character of the approaching alteration are very obscure and often elude entirely the keenest foresight.

I have said, that no two maladies were alike in all their features, which implies the same remark with regard to the variations of disease. The futility, then, of investigating those that have taken place with the hope of being enabled profitably to modify our treatment to suit those that are to come is obvious. It is further obvious that our only means of counteracting those morbid tendencies, is a deeper penetration into their causes, and the laws that govern them. I am inclined to think, however, that such knowledge is in a great

degree unattainable by human intellect, with whatever confidence I may have been taught to look upon the omnipotency of Science. The benefit of injury accruing from the treatment adopted in the first few cases subsequently to any change, will commonly reveal its nature and thus suggest the proper course.

I will illustrate the above remarks by an example: one of the most striking is that which has been so faithfully observed and so accurately depicted by English Pathologists, I allude to the changes so often happening in the three forms of their Endemic Fever. As this Fever has from time to time become Epidemic, a sudden and unusual predominance

of one or other form, has been almost universally seen, and the same may be said with regard to its endemic prevalence with the qualification, that these changes have been neither so sudden or so well characterized.

The general tendency, however has been from the sthenic to the more asthenic forms. Synocha has been gradually merging into Synochus, and the latter into Typhus, until the number of cases of the more inflammatory type constitute a comparatively small proportion of the whole. We are led by the recitation of facts like these to ask ourselves what would be the probable effect of a persistence in one uniform system of treatment. A single glance

at the result of such attempts afford us too many melancholy answers to this question. A new experience has been required in almost every Epidemic, and it has often been purchased at the sacrifice of lives. Venesection so efficacious in mitigating all the symptoms of Synocha, would in the ataxic condition, which is so infallably a result of the poison of Typhus, in all probability extinguish the lingering spark of vitality, which remains; indeed the whole treatment and regimen, properly adopted in Synocha would be evidently deleterious in the more adynamic forms, and vice versa, wine, tonics, the common remedies in the advanced sta-

ges of Typhus, would be as manifestly injurious in Synocha, and again there are some cases, or perhaps all the cases of an Epidemic, which in their commencement exhibit evidencies of the most sthenic reaction of the vitae powers which yet are prostrated much peychance fatally, by measures which appear to be unequivocaley indicated. Here then as I have before said, we learn by our efforts in first cases how to treat those which follow.

It is an interesting fact that mutations of practice, which have been deemed by the public, an evidence of the fallibility of Medical Science, are to him who looks for their causes, one of the best proofs of its validity

and it is not less interesting to observe, that amid all these changes, there is one acknowledged standard of practice, and this is strikingly exemplified in the case of a disease, concerning the nature of which, the medical mind is divided, it is treated alike by all, however much each may differ from another, as to its precise character. Every physician prescribes under guidance of his own theories, and still it may be, that not two of these theories agree in all respects.

This universal concordance then of all the members of the medical Profession, upon the general principles of practice through all the variations, to which it is liable, is an une-

quivocal proof of the propriety of such practice, and consequently, of the necessity for change.

An
Inaugural Dissertation
on
Apoplexy

Submitted to the examination of the

Provost Regents and Faculty of Physic
of the

University of Maryland

for the

Degree of Doctor of Medicine

By
E. L. Lane
Virginia
1845

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Gentlemen

In proposing for your consideration the following treatise on apoplexy, I have not the presumption to aim at originality; for a tyro in medicine would be unpardonably vain or beyond the confines of sanity should he attempt to add to the elucidation of a subject which has engaged the attention of men whose talents, learning and experience have amply qualified them for its scientific investigation.

Were I tempted to theorize at all, in consequence of inexperience it is but rational to suppose that it must necessarily be from false or at least doubtful data

Therefore I will content myself by presenting you with a brief summary of what I have gleaned from a few authors who have written on the subject.

There seem to be conflicting opinions entertained by authors on some points touching this disease which on either side are based upon mere speculations, and are in a practical point of view altogether unimportant.

I will not quote the arguments advanced in support of the different theories, but will adopt such opinions, as I think most plausible and which I imagine to be based upon the most positive evidence.

Apoplexy is characterized by sudden diminution or abolition of voluntary motion and consciousness with but slight disturbance of the vital organs.

It depends on pressure upon the brain originating within the cranium which serves to distinguish it from compression of the brain from external injuries giving rise to the same symptoms.

The pressure is produced either by congestion of the vessels of the brain, hemorrhage within the cranium or serous effusion, and it is difficult as well as unnecessary for practical purposes to diagnosticate between those conditions for we are governed in our treatment of the disease by symptoms common to the three varieties.

Symptoms Course &c

An attack of apoplexy sometimes comes on without any previous indications of its approach or at least the premonitory symptoms may not be sufficiently marked to attract attention, but an attack is generally preceded by symptoms indicating cerebral disturbances, such as vertigo, a feeling of weight or fulness in the head drowsiness, dim or perverted vision ringing in the

ears or temporary deafness, defect of memory, confusion of thought, a turgid state of the veins of the head, throbbing of the temporal arteries, epistaxis, disturbed and heavy sleep, general sluggishness both of body and mind, irregular spasmodic contraction of the muscles of the face, and sometimes a numbness is felt in one side of the body, shortly before an attack.

The most common of the foregoing symptoms are vertigo, singing in the ears, dimness of sight, and a sense of weight and heaviness in the head.

All of those symptoms are not always to be met with ~~before~~ an attack, and when they are present they may not precede an attack more than a few minutes, or they may be observed with occasional intermissions for years.

Immediately before an attack the premonitory symptoms are apt to become more aggravated, and a sense of tension and drawing is felt in the muscles of the back of the neck.

When an attack comes on if the patient is standing, he falls deprived of consciousness sensa-

tion and the power of motion, and a state of coma comes on resembling a deep and heavy sleep. In other cases the onset is marked by a sudden deep seated pain in the head, vomiting vertigo and insensibility, after which the patient temporarily recovers, but shortly relapses into a state of deep coma.

The following phenomena will serve to distinguish it from other comatose affections,

Immediately after the attack the pulse and respiration are often weak and scarcely perceptible but they soon recover from the first shock, the pulse becomes full and slow, and the respiration becomes slow and oppressed and usually stertorous.

The face may present a livid and tinged appearance or it may be pale. The eyes are blood shot or dull glassy and fixed or rolling in their.

The pupils are generally dilated in the other cases they are contracted. The jaws are spasmodically closed, or they may remain wide open. The power of deglutition is impaired or it may be entirely lost. The bowels are generally

constipated, and the urine passes away involuntarily.

The disease may terminate either in complete recovery, permanent paralysis of some part of the body, or it may terminate in a general febrile condition, after the sensorial oppression has passed off.

Causes

There seems to be a variety of causes predisposing to apoplexy, among which some authors secure a peculiar conformation of the body; but to establish which further testimony is wanting.

Age is considered one of the most powerful predisposing causes. It seldom attacks persons under thirty years of age and the common period in life for it to make its appearance is about fifty.

Certain diseases of the heart and lungs are reckoned by some as predisposing causes.

The cardiac affection to which most of this kind of influence is ascribed, is hypertrophy of the left ventricle, though I believe the prevailing opinion at the present day is, that when it occurs with apoplexy

it may be more properly termed a coincident originating from the same common cause.

In regard to the condition of the brain and its vessels, found on post mortem examination authors do not seem to agree as to whether the softening of the brain in the vicinity of the diseased vessels is the effect or the cause of the disease in the vessels themselves.

The exciting causes are also various. A preternatural determination of blood to the head, or an impediment to its return from the brain to the heart may produce an attack, where apparently no previous predispositions existed.

Over distention of the stomach by immoderate eating. The intemperate use of alcoholic liquors.

Strong muscular efforts, any thing favoring the accumulation of blood in the brain, as stooping or turning the head round so as to compress the jugulars. Compression of the neck by tight cravats, Exposure of the head to the heat of the sun, or to the heat of an intense fire, violent emotion or the use of some cathartics

stimulant, suppression of accustomed evacuations, Repelled eruptions, and healing of old ulcers.

Tumors about the neck pressing the jugulars. Any of these causes are supposed to be sufficient to excite an attack of this disease.

Pathology

It appears to be the conceived opinion at the present day that the brain is capable of being compressed, and that apoplexy is the effect of this compression

In either active or passive congestion whether arteries or veins and sinuses are preternaturally distended the space gained by the vessels must necessarily be at the expense of the substance of the brain.

The paralysis of a part of the body or the suspension of a function is owing to the compression of the nervous centre supplying that part of the body, or of the one influencing that particular function.

On post mortem examinations we dis-

cover vascular turgescence of the brain, sanguineous extravasation into the substance of the brain, serum effused into the ventricles or upon the surface of the brain and sometimes we are unable to discover any traces of cerebral disorder whatever.

The first only is considered essential or primary, the others being merely consecutive and not immediately concerned as causes.

When the veins are unable to return the blood from the head to the heart as rapidly as it is supplied by the arteries preternatural distention of the cerebral vessels is the necessary consequence producing pressure upon the cerebral mass which is admitted to be capable of producing the peculiar symptoms of apoplexy.

If the distended vessels be not relieved by extravasation or by remedial measures they are apt in the course of some hours to relieve

themselves by serous effusion which becomes a cause of cerebral compression.

The pressure upon the cerebral mass resulting from mere vascular turgescence of the cerebral vessels gives rise to the most favorable cases, at the same time it is believed to be capable of producing the most desperate and instantaneously fatal ones also.

Vascular turgescence may be relieved by proper remedial measures or it may terminate by sanguineous extravasation into the brain, or without any effusion until it terminates the life of the patient.

Diagnosis

It is difficult and almost impossible to diagnosticate between the different varieties of apoplexy with any degree of precision. Yet we may at times be able to reach very probable conclusions.

We may with propriety conclude, that it was mere congestion when the attack subsides speedily without producing palsy or mental derangement.

consequent upon structural lesion of the brain.

From a knowledge of the nature of the cause in conjunction with the symptoms distinguishing the two conditions we may be able to determine whether it was active or passive. We find a full strong pulse, and a red flushed face in the active and a weak or natural pulse and a pale countenance in the passive.

Congestion alone may be capable of producing palsy which may not cease with the removal of the cause. And it is also possible that sanguine effusion may not be followed by apoplexy. consequently these symptoms can not be relied on as indicating any particular condition of the brain.

But happily for us at the same time that it is difficult to distinguish the different varieties it is equally unimportant in a practical point of view

When hemiplegia precedes an attack and generally, when this or any other form of palsy is left behind after the apoplectic symptoms have disap-

pecord, or when the attack is accompanied by complete or partial loss of consciousness and the patient recovers but soon after relapses into a comatose state and the other apoplectic symptoms being present we may suspect hemorrhage.

The effusion in the brain will be found on the side opposite to the side of the body in which the paralysis occurs.

There are cases of coma arising frequently from other causes which are not easily distinguished from apoplexy but when they are attended with insensibility flushed face, a full strong and slow pulse and a slow stertorous breathing, we are apt to decide in favour of apoplexy and when there is simultaneous occurrence of hemiplegia or palsy of any one portion of the body our decision will be generally correct.

There are cases again in which the stertorous breathing is not present and the pulse is feeble and frequent, in such cases the occurrence of palsy sufficiently indicates the existence of apoplexy.

But sometimes this symptom is wanting or has preceded in such cases we must decide in a great measure according to the history of the case.

Apoplexy may be confounded with profound intoxication or stupor produced by opium and to distinguish which we must take into consideration the pre-existing circumstances connected with the case.

There is generally a capability of being somewhat roused in the early stages of poisoning by opium; this too may be of service in making out our diagnosis. The age of the patient should not be overlooked. If he is young we may justly conclude that it is not apoplexy.

Prognosis

Apoplexy may be regarded as an extremely dangerous affection. That form of the disease resulting from mere congestion under proper treatment does not frequently prove fatal.

Those cases resulting from hemorrhage or serous effusion are much more dangerous

The signs indicating an unfavorable termination are convulsions deep coma lasting two or three days, general paralysis, a gradual onset of the disease ending in profound coma and paralysis immobility of the pupils great difficulty in deglutition flapping of the cheeks in respiration foaming at the mouth repeated vomiting involuntary evacuations frequent and irregular pulse cold extremities, cold and clammy sweats and the pulse changing from a strong and full to a weak and feeble one.

Patients sometimes recover after these symptoms have set in though it is of rare occurrence.

When the disease sets in with sudden severe pain in the head or with vomiting or with general spasmodic rigidity of the muscles, we may apprehend the utmost degree of danger. If the patient is old or if he has had a previous attack the case is still less favourable.

Where the above symptoms are not present the case may terminate in health.

Treatment

The indications of treatment in apoplexy are to obviate the vascular turgescence within the head and to promote the absorption of blood and serum if any have been effused.

In order to meet these indications we should place the patient in a position least favouring the flow of blood to the head the neck and chest should be speedily freed of every thing acting as a ligature and his head and shoulders supported in an elevated position

If the strength of the patient will admit, blood should be taken from the arm through a large orifice, and the quantity taken should be in accordance with the vigour of the patient and force of the circulation.

The principal Agent in bleeding is to check the ~~flow~~ of blood to the head, and if the heart's impulse is already sufficiently reduced for that purpose there is no advantage to be derived from general blood-letting Therefore we should pay proper regard to the pulse

In a short time if the pulse should resume its activity a second bleeding should be practised, and repeated as long as the pulse may indicate it.

Local bleeding may be resorted to when general bleeding has been carried to a sufficient extent or when the pulse is feeble at the commencement.

Cups may be applied along the temples and back of the neck. Leeches are not considered so efficacious, yet when the attack has succeeded suppressed epistaxis, they may with propriety be applied to the interior of the nostrils, or when it has followed a suppression of hemorrhage from the rectum, or uterus, or of the menses. They should be applied to the anus or vulva.

Ice or very cold water, should be applied to the scalp in ordinary cases, but if the surface is cold, the face pale, and the pulse feeble this remedy is contraindicated, and in its stead warm emolient applications are recommended.

Revulsion should be kept up to the extremities by means of warm pediluvia, sinapisms &c.

Emetics are considered of doubtful efficacy, in

this disease, on account of their tendency to determine the blood to the head in the act of vomiting. They therefore only serve to promote that which it is the first and most prominent indication to obviate. If they are ever advantageous, it is in those cases which have succeeded a full meal.

Purgatives are very useful in this affection chiefly so on account of their tendency to divert the circulation to the intestines thereby diminishing the afflux of blood to the brain. The most active kind should be used at first, such as calomel and the extract of jalap, or calomel with colocinth, or the infusion of senna with sulphate of magnesia. When there are manifestations of portal congestion or torpidity of the liver, a full purgative dose of calomel should be given followed by castor oil or epsom salts.

If there is difficulty of deglutition croton oil may be given in the dose of a drop every hour or two till it operates. Or some of the most prompt cathartics may be administered by enema such as infusion of senna or solution of aloes in warm

water

Should these measures fail to make an impression on the disease, it would be advisable to try the effect of a mercurial impression.

A grain of calomel or a mercurial pill should be administered every two or three hours and gentle mercurial friction should be applied along the inside of the thighs and arms.

An Inaugural Dissertation
On Hydrocele
Respectfully submitted to the
Examination
Of The Provost Regents and Faculty of Physic
of the
University of Maryland
For the Degree of Doctor of Medicine.
By
John Hodges Mundell
Of Prince Georges County
Maryland.

In conformity to the long established regulation of Medical Schools, requiring of each candidate for graduation, a thesis in his own hand writing on some subject in medicine, I most respectfully submit the following - hoping that the Faculty, taking into consideration my bad health for the past twelve months, will excuse me for having written so briefly and imperfectly.

Hydrocele.

The term hydrocele derived from two Greek words, ὕδωρ which means water and κήλη a tumor, when used in a literal sense signifies any tumor produced by water; but surgeons have always defined it to be an accumulation of fluid either in the cord or within the cavity of the tunica vaginalis testis. Before proceeding to speak of hydrocele it may be well here briefly to advert to the anatomical relations of the parts concerned in this disease. The testis (as we all know) is a small oblong and rounded gland, suspended by the spermatic cord in the cavity of the scrotum. Before the seventh month of pregnancy the testicle together with the gubernaculum a cellulo fibrous cord extending from the bottom of the testis to the scrotum, are situated in the lumbar region, and placed behind the peritoneum, by which they are invested on their anterior surface and sides. "When the testis changes its position (for this movement cannot in strictness be considered a descent, as in the ordinary position of the foetus, the change is the reverse of that in which its gravity would draw it, therefore

it is rather an ascent) the investing peritoneum is pushed before it into the scrotum, forming a lengthened pouch and communicating at the inguinal ring with the general cavity of that membrane. The upper part of this pouch being compressed by the spermatic canal is gradually obliterated, the remaining portion immediately envelopes the testis, and is termed the tunica vaginalis. This is therefore a shut sac, to effect a change in the secreting faculty of which is the main object to be accomplished by the surgeon when he wishes permanently to cure a case of hydrocele. The symptoms of hydrocele are as follows, a swelling begins about the testis, unattended with pain, and is usually observed only by accident. It is at first flaccid, and the slightest pressure with the fingers determines the position of the testis, but as the swelling increases the parts become tense so that this gland can no longer be distinguished. It assumes a pyriform appearance, with a smooth and shiny surface. Fluctuation

is distinct particularly in the most depen-
-dent position. Some few of the vessels of
the scrotum are enlarged. This by some
has been considered one of the causes
of this disease. The general health of the
patient is unimpaired, he only suffers
inconvenience during exertion from its
weight and magnitude. The fluid
which hydrocele contains is furnished by
the exhalents of the tunica vaginalis and
tunica albuginea, but whether from excessive
secretion or diminished absorption it is
difficult to determine. It is generally thin
albuminous and of a straw colour, and
like serum is coagulable by heat acids
and alcohol. It sometimes however varies
in appearance for when produced by chronic
inflamation it contains a quantity of white
flaky matter, but when effused in acute
orchitis it often is of a red colour from a
mixture of red particles of the blood.
Sir Astley Cooper says that he has seen in the

fluid of hydrocele loose cartilaginous bodies a specimen of which was in the collection at St Thomas Hospital. The usual quantity of fluid is from six to eight ounces, but Mr. Gibson the hystorian relates an instance in which six quarts of fluid were drawn off. There are several varieties of this disease. It sometimes exists on both sides of the scrotum at the same time. Sometimes a serous cyst is developed on or near the testis, and the situation of the testicle varies a good deal.

The diagnosis of this disease is not very difficult. Hydrocele may be distinguished from diseased testis by being much less heavy than that would be, and by the absence of pain when pressure is made upon it. There is also little or no constitutional disturbance. From hernia we can distinguish it by being a permanent tumor.

In hernia the swelling is occasionaly returned into the abdomen, it is increased by the act of coughing and the upper portion of it is larger in circumference than the lower, whereas hydrocele increases from below upwards. Fluctuation and transparency are its principal diagnostic marks. If the room

be darkened in which a person with hydrocele may be, a surgeon by placing a lighted candle on one side of the tumor, and by grasping the tumor in his hand so as to make the skin as tense as possible, may at once discern the light through it.

The causes of hydrocele are various, it may be the sequel of inflamation of the testis. Sometimes it is attributable to powerful and heavy muscular exertions such as in blowing wind instruments. lifting heavy weights &c and perhaps the impediment to the venous return, so produced may be the cause of the effusion. This disease is sometimes cured by the unassisted efforts of nature, For when the hydro-cele has attained a large size, inflamation of the tunica vaginalis and scrotum arises from excessive distention, a sloughing of the parts is produced, and as this separates, the water makes its escape. then inflamation with suppuration and granulations ensue. so that the patient is cured.

Hydrocele has sometimes been cured by accidental blows or wounds in the scrotum, the following is a case reported in the eighteenth number of the

of the second volume of the London Lancet.

A Sepoy, in a state of intoxication repaired to the Toba Bazaar to purchase a pumulo, a species of fruit similar to an orange, but generally about six times larger. The Hindoo who kept the shop very quietly informed the Sepoy that he had sold all his fruit of that description. The Sepoy became enraged and made a thrust with his bayonet at the Hindoo's langoty (a handkerchief used for the purpose of concealing and supporting the scrotum, similar to a suspensory bandage) swearing that he had one concealed there; when to the surprise of all present, the shop of the Hindoo was immediately inundated with water. The bayonet had perforated a very large hydrocele. The Sepoy was immediately taken into custody, and after he became sober expected nothing less than hanging for murder - but he was only slightly punished, and the Hindoo had the happiness some time afterwards, of thanking the Sepoy for removing his "pumulo" alias curing his hydrocele — Severe blows have sometimes been known to cause a hydrocele to disappear entire

-by, and it has formed again some months after.
Sir Astley Cooper reports such a case in his lectures.
John Hunter says "that although the cure of a hydro-cele is very simple, yet no disease affecting the human body, and requiring an operation for its cure, has called forth the opinions and pens of surgeons as much as this disease."

There are three different plans of cure now in use
1st By the use of strong discutient lotions, which means are practiced principally with children, but rarely with adults, because of its want of success with them.
2nd The palliative treatment which consists simply in the evacuation of the serum - which is always sufficient for children, sometimes for adults.
3rd The radical cure which is generally necessary for adults, This is effected by certain stimulating injections, after the serum has been evacuated.

The operation for hydrocele is not often attended with evil results if the surgeon observes the requisite precautions. In using injections into the tunica vaginalis (for which plan we are indebted to Sir

James Earle) there is danger of throwing the fluid into the cellular membrane of the scrotum, which is followed by extensive sloughs and death.
Sir Astley Cooper says that he has seen many such cases. This accident has occurred with many of our most distinguished surgeons even in the hands of Professor Mott of New York a gentleman who has had much experience, and who perhaps has operated more frequently than any other in this country — The plan of operating is as follows, The surgeon takes the scrotum in his hand and supports it as in the operation of excision or incision and having ascertained himself that it is a hydrocele before him, introduces a trocar with a canula fitted over it, into the centre of the liquid on the anterior and lower surface of the tumor, pointing the instrument upwards to avoid wounding the testicle.
He can readily ascertain when he has penetrated the tunica vaginalis, by the want of resistance to the instrument, by the escape of a drop or two of serum between the canula and the trocar

and by the depth to which he has aimed. He then withdraws the trocar taking care that the canula still remains in the sac.

After the serum is evacuated he injects three or four ounces of some stimulating fluid through the canula by means of an elastic bottle with a stop cock attached or a small pewis syringe. If in injecting the tunic the slightest resistance is offered to the passage of the fluid through the canula the operator should not force it, but instantly desist until he has ascertained whether the end of the canula may not have escaped from within the sac. In which case he would meet with the accident which I have described. There have been a variety of opinions with authors as to what fluids answer best for these injections. Some prefer portwine and water others sulphate of zinc tincture of Iodine or lime water, while others rely on pure soda water.

The length of time generally necessary for the fluid to be retained is about five minutes for an adult and three for a child.

The excitement following the use of the injection seems to change the action in the parts without altering their relation or structure - to restablish the healthy balance between the exhalents and absorbents. Its first effect is some degree of inflamation and swelling from fresh effusion in the tunica vaginalis, accompanied with pain and slight fever. This effusion is generally absorbed in a few days the pain and fever subside and the patient is free of the disease - Should the excitement not be sufficient after a day or two - the parts should be rubbed and squeezed with the hand and the patient should be directed to walk about.

Professor Nathan R Smith of the University of Maryland operates for hydrocele in a manner somewhat different from the method directed by all the authors whose works I have consulted on this subject. And in my opinion his plan is devoid of the dangers to which the patient is liable when operated on in the usual way.

This is it. He seizes the testicle in one hand and with the other pushes a hook through the integuments

and the Tunica Vaginalis, and with it raises them up. He next thrusts a thrust lancet into the sac, very near the hook. Through this aperture the fluid escapes. Then with a small glass syringe the tube of which is inserted into the orifice, he throws into the cavity which was occu=pied with water the following injection-

Iodide of Potass	℥j
Iodine	grx
Water	℥iij

This is retained until it produces some sen-sation which it does in a very short time-
When the injection has been all prepared out he applies a piece of lint to the opening and directs the testis and scrotum to be supported with a suspensary bandage in order that there may be no impediment to the venous circulation of the part.

Baron Larrey a surgeon in Napoleon's army used to introduce a gum elastic catheter into the cavity of the tunic, after having drawn off the serum, and turned it about in it to produce irritation, and thus to

bring on inflamation, but this I think must be a very hazard-ous method. Within the last year two cases of hydrocele occured in the practice of my preceptor Dr Henry Brooke of Prince Georges County. In the first case a young colored man of robust constitution, he operated in the usual way, and I injected the sac with Port wine and water, but this did not produce sufficient inflamation, About a fortnight afterwards he tapped him again, and we injected it with Tincture of Iodine and left a portion of it remaining within, inflamation ensued, which had to be subdued by bleeding and the antiphlogistic regimen, but the man perfectly recovered, and was at his work a short time afterwards.

The second case was an old man on whom I operated and used an injection of diluted Tinc. of Iodine, but in this as in the first case, we failed to cure by the first operation, so we repeated it, after having suffered two weeks to elapse. This accomplished the desired object, and he soon was able to go about as usual. Much more might be said of the different methods, which from time to time have been devised by different authors for the treatment of this disease, but tis not necessary for me, here, to enter any farther into detail.

An
Inaugural Dissertation
on
Typhoid Fever;

Submitted to the examination
of the
Provost, Regents and Faculty of Physic
of the
University of Maryland;

for the Degree
of
Doctor of Medicine,
by
Gabriel Parker White
of
North Carolina.

February 7th 1849.

Typhoid Fever.

To this disease numerous names have been given; but I shall call it by the name of Typhoid Fever, as I think this to be the most suitable, and moreover, as it is now becoming to be used more and more every day. It has but of late been considered as a separate and distinct disease, and even at the present day, is spoken of by some of the physicians of England as being one, and the same disease as typhus.

This affection cannot be confined to any one particular organ; but tends to extend its ravages throughout the whole system. It is found in every part of the United States; though more frequently in the eastern, and middle. It appears to be less prevalent in malarious districts than others.

Persons of all ages are subject to this malady; but the middle aged most frequently.

Symptoms, and Course

In the incipient stage of this affection the symptoms, generally, are very indistinctly marked, owing to their slow, and gradual access. Among some of the first that are recognised are the following: diarrhoea, and epistaxis, occurring two or three days before the patient experiences much indisposition; but after a while he becomes dull and languid, his eyes wandering about vacantly as if fixed upon no object; there is pain in the head, and soreness in every limb: loss of appetite, and some thirst; there occurs a chill, or rigor, followed by increased heat of surface.

At this period, the pulse begins to be altered from its natural condition to one of greater frequency, and force; but after a few days this form of fever disappears, and is succeeded by one of a more adynamic type.

This disease may present itself in a way quite different from the above, by being sudden in its appearance, and rapid in its march; but for the most part it is gradual, and slow.
As the disease advances, the symptoms of the head become better marked, the mind is dull, and untoward; there is delirium, and this symptom followed by stupor, and dulness of hearing; the tongue is protruded with difficulty and when protruded it is tremulous; there is twitching of the facial muscles; general subsultus tendinum, and a peculiar expression which the patient wears upon his countenance; there is dimness of sight, pain in the head and back, and coldness of the extremities; we have also along with these symptoms a hurried respiration; cough; slight expectoration, of a colourless, and tenacious consistence.

the expectoration, in the latter part of this disease, it frequently tinges with blood, which admonishes us that inflammation has taken its seat in the lungs. If we practice auscultation upon the chest of the patient, we hear a dry sonorous, and sibilant rouchet; occasionally however we have a mucous rattle, and dulness at the lower part of the chest on percussion. Some of the most striking abdominal symptoms are the following diarrhoea, almost as a constant symptom, the stools of which are very much like new cider in both colour, and consistence; not unfrequently do we find bloody evacuations from the bowels; we have also tympanitis; pain, and gurgling in the right iliac region, when pressed upon; the bowels are sometimes painfully distended, with-

flatus, which is a source of great annoyance to the patient. This affection is generally seen at its maximum stage, about the eight or ninth day, at which time there is a greater amount of stupor and delirium; the pulse becomes dicrotic, and more frequent; the tongue presents a brownish coat, with a dry, rough, hard, cracked or fissured surface; the teeth and lips are covered with sordes; the patient has an inclination to slip down towards the foot of the bed, and appears to be totally unconscious of what is passing around him; not unfrequently do involuntary discharges from the bowels occur, of which the patient is unconscious. During the second week we have rose-coloured spots, making their appearance upon the breast and abdomen they are few and scattering, and may be known by their disappearance

upon pressure; but returning immediately as we cease to press them.
About the twelfth day, or even later in the disease, we find sudamina — or small colourless vesicles — which make their appearance upon the neck, and groins, remaining for a few days only, and gradually disappearing. Towards the latter stage the patient is likely to have bed sores forming upon the hips, sacrum, and other prominent parts of the body.
When death is hurrying its unhappy victim to his long abode; the position of the patient is upon his back, his mouth being half closed; eyes suffused; the pulse quick, and thready; a tremulous twitching about the muscles of the face, and his countenance assuming a haggard and cadaverous expression; finally death ensues, by coma, or syncope.

Causes.

The true and real cause of this disease is as yet unknown; though we have numerous predisposing causes, such as bad living; exposure to wet and cold; crowding together too many persons in badly ventilated apartments, such as ships, hospitals, jails &c. I think too that contagion may be a source of its propagation - though it has been denied by some very eminent authors. It often prevails in country places, or districts as an epidemic, confining itself within certain bounds.

Middle aged persons, and those of a robust constitution are more subject to it than either the young or old; and males more frequently than females; also persons coming from the country to reside in the city. Autumn and winter seems to be those seasons of the year in which the disease prevails most extensively.

Anatomical Characters.

Some of the most prominent lesions found after death are ~~situated~~ in the thorax, and ~~abdomen~~ abdominal viscera. Those of the brain are not very strikingly marked - though we may sometimes find an effusion of serum between its membranes: Its consistence is but slightly altered. The mucous membrane of the trachea, and bronchial tubes is found to be of a red, or violet-colour. The lungs are in a state of engorgement, and hepatization; and solidified at their base: the heart and arteries are softened to some extent, and this is thought - by some authors to account - for the low grade of fever. If we draw blood during life in this disease, we find on testing it, that it has a diminution of fibrine, this accounting for its non-coagulability.

The pharynx, oesophagus, and stomach are generally unchanged — though the latter ~~frequently~~ sometimes becomes thickened, softened, and even ulcerated. The spleen and liver are frequently found to be enlarged, softened, and engorged with blood. The changes that occur in the small intestines are peculiar, and not seen in any other affection. The glands of Peyer and Brunner are affected from the commencement of the disease — though not so much as to be perceptible to the eye: the changes that take place in the glands vary according to the duration of the disease; at the fifth or sixth day they begin to be thickened, and their margins are seen to project above the mucous lining of the intestine; their colour varies at different periods, sometimes presenting a dull-white appearance, at other a florid hue. The glands of Peyer are seen

in the ileum, clustered together in patches; while those of Brunner are found in the stomach and duodenum, in an isolated state. Peyers glands are affected mostly towards the termination of the ileum ~~and~~ at the ileo-caecal valve. the number of patches vary from three or four, to twenty or thirty. From the fifteenth to the twentieth day or even at a still later period, we find the glands in a state of ulceration which destroys the mucous coat; not uncommonly the muscular; and may even go so far as to perforate the serous, into the cavity of the peritoneum; these ulcers may cicatrize and form a new mucous coat but this coat is sometimes found wanting. The mesenteric glands are enlarged, also the parotid, which are occasionally found to be in a state of suppuration. indeed the whole glandular system is affected by this disease more or less.

Diagnosis.

Such a length of time did this disease prevail, before it was ascertained to have had independent symptoms; that one would suppose it to be difficult of distinction, but such is not the case, for there are few diseases better marked than this - indeed it is scarcely possible to mistake it for any other affection. Some of the most prominent diagnostic symptoms are the following -

Diarrhoea and epistaxis presenting themselves at the commencement of the attack - chills, or rigors followed by pain in the head and back - soreness of the limbs - the eyes are dull, heavy, and wandering, and the countenance betokens a state of general lassitude. Accompanying the symptoms above, are heat, thirst; loss of appetite; heat of skin; acceleration

of the pulse; dulness of intellect; the patient becoming gradually delirious, with ringing in the ears, and a disposition to pick at the bed-clothes; there is also in addition twitching of the facial muscles, and tendons of the fingers; a tremulous tongue it being protruded with difficulty, and covered with a thick, brown coat; sometimes the skin is bedewed with a clammy perspiration; then again it is hot and dry. Towards the latter part of the second week, peculiar rose-colored spots make their appearance upon the surface of the breast and abdomen, at which time also, the disease is generally seen in its most aggravated form, there being more stupor and delirium at this period than at any other; now we have tympanitis, and gurgling in the right iliac region when pressed upon; not unfrequently is blood passed from

the bowels; there is cough; slight expectoration; and there is heard over the chest a dry sibilant; or sonorous rou chus.
We may find eruptions about the twelfth day, which are generally seen upon the neck and groins; these however are of little importance in the diagnosis, and may be overlooked if not closely searched for. This disease may sometimes be mistaken for meningitis, which occurs in children - though by a careful examination we can generally tell one from the other. The disease with which typhoid is most easily confounded with is typhus fever; this circumstance occurs especially in the incipient stages of both affections. The diagnosis (may be summed up into the following symptoms) between the two diseases: It (typhus) is more sudden in its appearance, and there occurs also a greater amount of stupor, and

delirium; besides in typhus there is no gurgling on pressure, nor diarrhoea; but on the contrary the bowels are constipated. Meteorism is rare, and there is less emaciation and epistaxis in typhus; Hemorrhage rarely if ever occurs from the bowels. In typhus we have the petechial spots which do not disappear upon pressure, as do the rose-coloured eruption of Typhoid ~~fever~~. Also in the former affection the mesenteric glands, and glands of Peyer are in a healthy condition. The brain and its appendages undergo greater changes in typhus, there being found great engorgement in the vessels and sinuses; it is also more contagious, and terminates <u>much</u> sooner in death.

Treatment

The treatment is not a decided one, for the disease itself we cannot treat: All that we can do is to palliate the symptoms, and assist nature to perform those offices, which she struggles so hardly to accomplish. We have to lend our assistance as the symptoms demand it: as in the early stage of the disease, when the pulse is strong, and will bear depletion; we take blood from the arm, and a sufficient quantity to produce a decided effect upon the pulse – by this means we may sometimes lessen the effects and duration of the disease to a great extent. After this first stage of fever has subsided, and the pulse assumes a low, adynamic character, which

it the case, in the course of three or four days — we have to lay aside our lancet for the remainder, and resort to those medical means which are directly opposite in ~~character~~ their effects: such as will have and support the system; — as for example tonics and stimulants. venesection is not practiced so much as it should be; because the disease has generally made considerable progress before medical aid is summoned, and after the proper time has passed by, the pulse will not bear it. If there occurs much pain about the abdominal regions; cupes, leeches, and warm poultices are very efficient remedies, ~~when~~ applied to the abdomen. If the head suffers much, as is frequently the case — we should shave the hair off and apply cold; in the

form of powdered ice + put into bladders:
also cupping to the back of the neck: leeches
to the temples: warm bath, and mustard
plasters to the lower extremities: all
of which will be of service.
Purgatives and emetics are dangerous
medicines to be prescribed in this
affection; if they are given at all it
should be with the greatest caution:
there being already great irritability in
the stomach and intestines; after the
disease has somewhat advanced, if
necessary, we should ~~gently~~ keep
the bowels + gently open, by using mild laxatives &c.
on the other hand if diarrhoea is
obstinate it should be kept under
subjection, by proper remedies: such
as a dovers powder at night, or chalk
mixture &c. Towards the latter stages
of this affection, when the glands of
Peyer, and Brunner assume a state
of ulceration, and when the tongue

presents a red, smooth, and shining appearance; the oleum terebinthinae is found to be salutary; given in doses of ten drops, combined with a little gum mucilage - three times a day. This medicine is particularly recommended by Dr Wood of Philadelphia.
Internal refrigerants are among the best remedies that we can prescribe for our patients; we may let them have cold water; small pieces of ice to hold in their mouths; the effervescing draught; and soda water of the shops; all these are very pleasant and grateful to the patients taste. We may also use small quantities of chlorate of potassa and bicarbonate of soda combined with flax seed tea or gum water - as a drink. Demulcents are used with benefit, especially in the latter stage, to shield the mucous

coat of the stomach and intestines.
Opium is a medicine that should
be cautiously employed - indeed it
should never be given, when the
head is affected by such symptoms
as delirium or coma, for it only increases
the comatose condition of the patient,
and subsequently may be the cause of
death: this drug - although a dangerous
medicine in the hands of the unskilful,
when prescribed properly, may often
snatch the patient from the jaws
of death, when other means have
failed: it may be given in such
cases as nervous delirium, somewhat
resembling delirium tremens in
appearance; it may also be given in
cases of watchfulness; restlessness, sleep-
lessness, and spasm, when the head
is not affected. When the patient sinks
into a deep state of coma, we should
shave the hair from the head, and

apply a blister to the scalp; also blisters and sinapisms to the lower extremities: This kind of treatment sometimes has a very happy effect; the patient awaking from the state of coma, while the blister is drawing. When this affection falls upon the lungs, and produces much inflammation of the bronchial tubes, cough and dyspnoea; we should take blood locally, and make counter irritation to the chest; If there should occur perforation of the intestine, by ulceration of the glands; we must prevent the escape of faecal matter into the peritoneal sac, by keeping the patient perfectly quiet, upon his back, and the free employment of opium to check the peristaltic action of the bowels: in order that the ulcers may cicatrize. We should examine daily and see that the bladder is not distended; if so the

water should be drawn off with a catheter: he should also see that the under surface of the body is kept dry and clean, for this will prevent to some extent sloughing of the parts. When any of the projecting points, such as the hips, sacrum or shoulders begin to redden, they should be washed in brandy and placed in such a position as not to receive too much weight of the body. By the adjustment of pillows or the water bed, we can easily obviate this tendency to the formation of sloughing ulcers: their treatment is the same as the ordinary sloughing ulcer. Towards the latter stage, as the patient becomes much debilitated and emaciated, we should resort to tonics, and sulphate of quinine is one of the best, if not the best! that we can employ.

This medicine should be commenced with in small doses, and increased if after giving it three or four times and it is found to disagree with the patient; we should not throw it aside altogether, but wait for a few days, and resume it again. We may prescribe any of the other Tonics at our discretion.

During convalescence the patient should have as strict attention paid to him as in any part of the disease; he should not be permitted to get up too soon, and walking about; nor should he eat too freely of animal food or any other unwholesome article of diet; for this is more frequently the cause of a relapse than any thing else: a relapse being always more dangerous, and difficult of management than the former malady.

towards convalescence when the ~~irritation~~ inflammation of the mucous follicles abate, we may employ cathartics more freely — though they should be of the mildest kind, and only prescribed when needful. The patient — when convalescing should be kept upon such articles of food as are easily digested, such as soups, custards, jellies &c, as the system begins to assume its former healthy condition, by the tongue becoming clean and natural; the skin moist and pleasant; the pulse more firm, slow, and natural and the stools of a healthy colour, we should let the patient gradually enter into his former diet, by permitting him to eat first of a little chicken or mutton chop, until he can bear food of a more gross kind. —

Prognosis

As regards the prognosis much will depend upon the character of the prevailing epidemic, for it is always grave when the disease assumes a low, adynamic type; also when there is much delirium or stupor; when the pulse numbers more than one hundred and thirty or forty beats in the minute; when obstinate diarrhoea; involuntary discharges or hemorrhages from the bowels; perforations through the intestines (by ulceration) into the cavity of the peritoneum; a relapse occuring from imprudence of any kind is generally fatal; the months of autumn & winter seem to increase the amount of fatality; convalescence is always slow and tedious. Those persons that seem

to suffer most from this affection are chiefly between the ages of twenty-one and thirty-five, and those that suffer least under twenty — indeed a person under this age rarely if ever perishes from the disease. When this affection is complicated with any other disease, such for example as rubeola, pneumonia or remittent fever, the prognosis is always grave. Towards the latter stage we may sometimes find the countenance of our patient assuming a pinched, haggard and cadaveric expression, which to the well taught eye of the physician is the unwelcome monitor of death.

An
Inaugural Dissertation
On
Inflammatory Croup
Submitted to the examination
of the
Provost Regents & Faculty of Physic
of the
University of Maryland
for the
Degree of Doctor of Medicine
By
Daniel W. Thomas
of
Baltimore Maryland

1849

2

On Inflammatory Croup

In compliance with a long established custom, it becomes in turn my duty, to present to the Faculty of Physic, a communication in Thesis form: and, in thus discharging a duty which I owe to the Science of medicine, I cannot but presume that my productions here, will have but little weight; in effecting my graduation, as it is well known by the learned Faculty, to whose consideration this is presented, that the student, when he receives his Diploma, is but entering upon the drama of professional life, and that, if this period be regarded the closing of the students life, he will ever remain-

a drone, and in a few years will find himself out-stripped far, by the rapidly advancing science of Medicine.

I have selected this subject, simply because it has frequently fallen under my observation in the practice of my preceptor, and will therefore give the phenomena as I have observed them at the bed side.

My course will be somewhat different from the systematic division & arrangment adopted by Professor Power. Croup is a disease, the unequalled rapidity of whose march, renders its approach more formidable to parents, than, perhapes any other disease in the vast nosology of Medicine. No disease is more certainly fatal to those children who are made the subjects of its attack, when suffered to run its course un=

molested. Consequently, there is none, which demands more immediate and more appropriate treatment, from the hands of the practitioner. The physician should be always ready to act with promptness and decision, in order to meet it in its commencement, and thereby arrest its farther progress. A few hours delay, or a single misstep may be fatal to the patient.

Without entertaining any speculative views with regards to this malady, I shall confine myself to those conclusions, which have been thoroughly tried and found to answer well all practical purposes. The Faculty will therefore expect nothing new from me in this essay; and even could I conceive a single new idea, I would hesitate ere I would advance it, lest I would by doing so, call the

the attention of the profession from the present known and practical principles.

It is generally admitted, though it is yet to a certain extent a subject of controversy, that this disease is essentially inflammation of the submucous tissues of the Larynx. This is the most common seat of the disease, — though it is not necessarily confined to this region. It may extend by contiguity of tissues either upwards to the fauces, or downwards involving the Bronchi, their ramifications, and even into the lungs. This view appears to have been adopted by Cullen, who blends this disease with simple Mucous Laryngitis, though these two diseases differ from each other very materially in their prognoses of which both are exceedingly grave —

though Croup is decidedly the more so, because it can seldom be so — promptly relieved by the use of the knife, as simple mucous Laryngitis. They differ also in respect to the age at which they occur, the one (Croup) being almost exclusively confined to the period of childhood, the other, seldom found in its idiopathic form before the period of puberty. Croup differs from Laryngitis, and indeed from almost all other inflammations, in its exhibiting an event which does not usually attend that process when it affects other organs. Viz the effusion of coagulable albumen. This is probably owing to a difference in the proportions of the constituents of the blood. It is found by chemical analysis that the blood of children contains a larger proportion of Albumen and

fibrin, than that of adults, which decreases as life advances.

Croup, as I said before, is common to early life. It most frequently makes its appearance during the interval between weaning and puberty. It is also more fatal in its nature during the first year of infantile existence, and, according to the experience of most authors, it is more common in the second year than in any other. I have seen about 18 or 20 cases of Croup, and have observed, that they have generally occurred about the second year. It is probable that the change of diet consequent upon weaning, may have some effect in rendering children more susceptible to the exciting causes of the disease. It has also been observed that the younger children are when weaned, the more liable

they are to be attacked with croup, and this liability decreases with the advance of life from the second year onwards. Notwithstanding these results, there are cases on record of its having occurred subsequently to the period of puberty, though this is an exceedingly rare occurrence.

It is a singular fact, that inflammation thus attacks different structures of the same organ, at different periods of life and thus, giving rise to consequences so different.

Symptoms

This disease is generally preceded by a moderate catarrh, sneezing, coughing, and hoarseness. Hoarseness is a characteristic symptom of croup, and is not common to catarrh in young children. The child's disposition is changed, it becomes irritable and impatient. It

is feverish and does not sleep well. These symptoms ~~symptoms~~ continue for a greater or less length of time. then the signs peculiar to Croup make their appearance. These are difficulty of breathing, sonorous inspiration. hoarseness and sometimes entire loss of voice. I have seen these little patients struggling and carrying their hands towards their mouth, conscious that some impediment to the breathing existed there, betraying the most intense agony by their countenance. This is owing probably to spasm of the small muscles of the Larynx, called into irregular action by their naturally excitable nervous systems. There is a peculiar cough to which the term brassy has been applied, from its similarity to the sounds produced, by coughing through a metallic tube. This

sound is seldom forgotten when once heard. The respiration ~~is~~ has a singing character, and when the lungs are exhausted either by respiration or coughing. the inspiration is attended by a loud crowing ~~inspiration~~ sound similar to the first attempts of a young cock at crowing. Hence the name Child Crowing is frequently given to this disease. This disease is in most cases attended with inflammatory fever, hot skin, thirst, a frequent, hard pulse. together with the absence of any difficulty of deglutition.

None of these symptoms are to be depended on alone. They must be taken collectively, together with the degree of rapidity of progress, in order to form a correct diagnosis; many of these symptoms are common to other diseases.

The fever in the commencing sta-

ges is high. As the obstruction to the breathing becomes greater, the blood fails to receive the proportion of oxygen adequate to its perfect decarbonization, a point so essential to the health, and well being of the patient. And as a necessary consequence the skin becomes livid and dusky, and the extremities become cold. As the disease progresses the cough also undergoes a corresponding change, it becomes dry and husky, and the voice gradually sinks to a whisper. The head is thrown back. The alae of the nose are expanded, and the face assumes a pale cast, and a peculiar pearly or bluish tint, and is frequently swollen, while the pupils become more or less dilated. Drowsiness is apt to supervene on the symptoms of sinking. The arms are thrown and tossed about as if struggling to be released from

the very jaws of death. The breathing becomes gasping, and the patient expires after an inspiration.

The symptoms, which mark the approach of this disease, are not always such as I have described. But on the contrary, the disease sometimes occurs suddenly, — with little or no premonition. The patient is put to bed apparently in perfect health, and in the course of the night it is aroused from its slumber with all the worst signs of Croup. It has been observed almost always to make its appearance at night; — whether occurring suddenly, or preceded by the usual signs. This form is very rapid in its march, often carrying off the patient in a few minutes. This form is I believe — most manageable; but the rapidity of its march, and the ~~[illegible]~~

prevalence of the disposition to postpone sending for medical aid till the disease has advanced too far, is such as to seldom admit of remedial measures.

Morbid Anatomy

The appearances found after death, are those of inflammation. There is sometimes redness of the mucous membrane lining the Larynx, Trachea, and sometimes the Bronchiae. There is generally an accumulation of a concrete membrane like substance, assuming frequently the shape and size of the tube in which it is enclosed, which in cases of recovery, is expectorated — in this cylindrical form, and sometimes in flat tubular fragments. In fatal cases these membranous tubes are sometimes closely adherent to — the mucous membrane, and sometimes detached so that it might

have been expelled without difficulty, had it not been for the exhausted condition of the patient, and the spasmodic irritability of the glottis.
This adventitious membrane usually commences at the Larynx, where it is thin and soft. It increases in consistence as it proceeds downwards to about the middle of the Trachea, where it again diminishes in density and becomes pulpy and soft.
They sometimes extend into the bronchial ramifications, forming what are called bronchial polypi, which are sometimes coughed up
These appearances are not always present. Some cases present nothing unnatural except a mere redness, and swelling of the mucous membrane, covered with a viscid mucous, sometimes there is but a slight —

trace of concrete albumen in different points on the mucous surface, showing very clearly that the difficulty of breathing and wheezing sounds did not depend entirely on the presence of false membrane, but in part on the spasmodic contractions of the small muscles of the larynx, which accounts for the paroxysms of dyspnea sometimes attending this disease.

Causes

This disease is not contagious, though several of the children of the same family may receive it in quick succession. It frequently appears sporadically but there are places in which it appears to be endemic. Cold and damp places, more than such as are merely cold, are more subject to Croup. It is therefore common on the sea shore, and in the neighbourhood of large bodies

of water generally. It occurs in low-marshy districts, more frequently than on mountain sides, and elevated situations, exposed to cold dry winds. Towns situated on rivers are most frequently visited by it. Thus croup is evidently owing to exposure to cold and moisture combined, and in such places as are cold and damp this disease has been known to occur in an epidemic form.

An attack of croup does not furnish an immunity against a subsequent attack, but appears rather to have an opposite effect. A patient having this disease is subject to relapse, and this may occur a few days after apparent recovery. There are often left as the effects of this affection, Hoarseness, cough, and sometimes complete aphonia, for a considerable length of time, rendering the patient more subject to repeated

attacks of the malady, as long as the remnants of the acute attack are present. The first attack is generally the worst, but there are frequent variations from this rule.

Prognosis

This cannot be otherwise than grave. I believe the results of observation show that about one half of the number of persons attacked die. We must form our prognosis by the circumstances and progress of the case, and by the general condition of the patient. If the extreme difficulty of breathing cease, and the child expectorates, while the strength is not far lost, we may venture a favorable prognosis. On the contrary if the patients breathing continues difficult, and his skin becomes cold, his face livid and swollen, the pulse

feeble and irregular while drowsiness and tendency to coma supervene, our prognosis must necessarily be exceedingly unfavorable.

I have described, as well as my limited powers will allow, the nature and appearance of this malady, and will ~~xxxx~~ now investigate the principles of treatment in such cases. This is divisible into prevention and curative

Treatment.

Preventive. When an attack of croup is apprehended, the patient should be confined to a warm chamber, and I would administer an emetic of Ipecacuanha and Antimony followed by a mild diaphoretic, with small sedative doses of Antimonial wine, I have seen a preparation of Lycopus Virginicus, Vinum Antimonii and paregoric used very successfully in the practice

of my preceptor in such cases. During this time, the patient should be sedulously watched, and visited late at night in order to observe the character of the respiration. But when the attack has actually commenced our treatment must be more energetic.

Curative Treatment. Our main reliance in this affection is on the abstraction of blood, and the administration of Tartar Emetic and these measures should be carried out freely remembering, that if the desired effect be not speedily produced, the patient will certainly die. that there is not only danger but death in delay. There are few if any exceptions to the rule which prescribes free blood letting in every case of severe idiopathic Croup, when seen at an early period, before the livid lips and

countenance, and the failing pulse, announce the long continued obstacle to the passage of air to the lungs. In very young children local depletion forms a very good substitute for general bleeding, but the requisite amount should be taken as speedily as possible; for it is not the abstraction of a given quantity of blood that is demanded, but its removal in such a manner as most speedily to produce an effect on the system. This should be accomplished by means of leeches applied not to the laryngeal cartilages, as some have recommended, but to the top of the sternum. The mechanical compression required to arrest the flow of blood from these little nipples on the larynx, would seriously impede the passage of air through the already insufficient tubes. Dr. Cheyne thinks —

bleeding from the jugular vein is preferable to venesection from the arm under these circumstances, because we often fail to obtain a stream of blood in very young children, and when obtained is seldom free enough to answer the demand. This operation is attended with the same objections which I gave in leeching the larynx and in addition to this there is danger of admitting air into the veins, and thus put an end to the patients existence. These expedients should therefore be resorted to with extreme caution, and should not be practised unless the severity of the case imperatively demands it. We should have in view the safety of our patients, even at the risk of our reputation. I would under these circumstances place my dependence

on bleeding from the arm or the foot, and local bleeding by means of cupes or leeches.

As to the quantity of blood requisite to be taken we can come to no definite conclusion. We should take into consideration, the previous strength of the patient, the intensity of the symptoms, and the effect produced by the flow of blood. In ordinary cases topical bleeding by means of cupes or leeches at the top of the sternum, will be all that is necessary. The effect of bloodletting on this disease is often very striking. The respiration is often observed to become perceptibly easier during the flow of blood, but though the relief thus afforded be very great, it proves but temporary, and unless followed by some agent to assist its action, the symptoms will often re-

gain their former intensity in the course of a few hours. Such a agent we find in Tartar Emetic, by its use we render the further loss of blood unnecessary. To accomplish any benefit by the use of this medicine, it should be given in doses of ~~½~~ ¼ or ½ gr every 10 minutes until vomiting is produced, and the same doses continued every half hour until decided and permanent relief be afforded. The dose which at first excited vomiting soon loses its power so to do. It should then be increased, since its utility seems, not to depend on the quantity given, but on its emetic powers. Nauseating doses of Antimony have not seemed to check this disease so surely, while they cause a greater depression of the powers of life, and thus mask the approach

of the fatal termination.

If the use of this remedy be persisted in for several hours without any appreciable benefit to the patient, a repetition of the local or even general depletion may be requisite in some cases. If, on the other hand, the symptoms abate under the use of antimony, it may be given at longer intervals, but we must guard against being misled by temporary improvement, and thereby be induced to abandon the medicine. Its use should not be relinquished by gradually diminishing the dose, but rather by lengthening the intervals. It may be given every hour or two hours instead of every ten minutes, and if the amendment continue, the interval may be prolonged to even three, four, or six hours. After the severity of the symptoms —

have been subdued by the use of anti
mony, it becomes necessary to administer calomel. Mercury might have been useful in the commencement of the attack, but the action of this class of medicines is far too slow, to arrest a disease so rapid in its course. Calomel seems, at this period to be useful in two ways viz It counteracts the tendency to the formation of adventitious membrane in the air passages; And, It prevents or subdues that inflammation of the lungs, which is so frequent and so fatal a complication of the disease. This is best given in minute doses in combination with ipecacuanha or Dover's powders. We should discontinue the use of mercury at the appearance of any exacerbation, and immediately return to the energetic use of Antimony.

If the patient be seen too late for the employment of the antiphlogistic treatment, or if by the administration of antimony, we fail to relieve the dyspnea and stridulous breathing, while the patient still grows comatose, the pulse feeble, and the lips livid, we must adopt a different course of treatment from that which I have described. An effort must be made to arouse the vital energies of the patient, from the this state of collapse. By placing the child in a hot mustard bath, and emetics of Sulphate of Copper, or Zinc should at once be administered. This is an emetic of great power and one which is attended by little nausea and depression, and seems especially applicable where this condition already exist to an alarming extent, and where the stomach has

lost much of its irritability. It should be given in one fourth or half grain doses until free vomiting is induced. It is employed with the double purposes, first of obtaining the stimulant action of an emetic, second of preventing if possible the accumulation of false membrane in the larynx. And, as often as the symptoms of collapse, make their appearance the sulphate of Copper or Zinc may be used to produce vomiting. The main object however must now be to bring the system under the specific influence of mercury as speedily as possible, though the attempt will sometimes fail, and the most complete success does not necessarily imply the recovery of the patient. With this view a grain of calomel may be given every hour

to a child from two to three years old, unless the existence of profuse diarrhea should contraindicate its use, while at the same time, a drachm of mercurial ointment — may be rubbed into the thighs or axillae every two hours. If diarrhea be present, Calomel must be given more sparingly, or be altogether omitted. but the inunction may be used even more frequently.

In this stage of croup the decoction of Senega is a medicine of great value, and may be given in combination with Carbonate of Ammonia and Tincture of Squills every two hours, the pungency of the ammonia may be concealed by sweetening it with sugar and mixing with it a little milk. This preparation is useful as a stimulant —

and expectorant. The patients — strength may be supported by a generally nutritious diet, and even wine may be administered when the prostration is extreme. Blisters applied to the chest have been found useful after the violence of the disease has been checked by means of the antiphlogistic treatment, and have proved beneficial in the hands of — some practitioners when applied to the throat. These measures I think are inappropriate in the acute form of this disease, on account of the constitutional irritation which they are apt to excite, and thus add fuel to the already existing fire. Blisters and other counter irritants are particularly applicable in the secondary form of this disorder, arising as a consequence of some other dis-
ease

The operation of tracheotomy has been recommended by some authors, though this is generally inadmissible in cases of Croup. The inflammation generally extends below the point at which the operation should be performed, and it is exceedingly difficult of performance while the thorax of the patient is in such perpetual motion. When it arrives at such a crisis that tracheotomy is the only expedient which excites in us a hope of saving the life of our patients, we should at once prepare the parents of the child for a fatal issue, by giving them a true statement of the condition of the child. We should not under such circumstances relax our efforts to save its life, but we should act as long as the vital spark is yet unextinguished.

An
Inaugural Dissertation
on
Cinchona,
Submitted to the Examination
of the
Provost, Regents & Faculty of Physic,
of the
University of Maryland
For the
Degree of Doctor of Medicine
By
Stephen Hartshorn Pratt
of
Baltimore Maryland,
A.D. 1847.

Cinchona-
Peruvian Bark--

The discovery of Cinchona formed an important era in the history of Materia Medica- It was the addition of the most efficacious of all vegetable tonics, & an almost infallible remedy in a large class of diseases.- Its introduction was violently opposed by physicians of high authority & world-wide fame- -- Stahl and Hoffman stoutly resisted it; and even Boerhave denied it the right hand of fellowship. Sydenham, on the other hand, with less incredulity & a juster judgment, aided its adop-

tion both by example & recommendation. — The precise time & manner of its discovery as a Therapeutic agent is shrouded in great obscurity. It was probably about the middle of the 17th Century. Geoffroy asserts that the Indians were acquainted with it, as a medicine, long before the arrival of Columbus; but through hatred to the Spaniards concealed their knowledge, until, appeased by favors, they communicated the secret to the governor of Loxa. Baron Humboldt, however, does not credit these assertions; - for he found most of the natives considered Cinchona a poison, & in only one place, Macalatis, did even the barkpeelers have any confidence in it. But the Baron is disposed to believe the Jesuits discovered the medicinal power of bark; & this he infers from an old tradition current at Loxa which represents

them as making trial of it in tertian ague in consequence of its intense bitterness.

Cinchona was first introduced into Spain according to Dr. Villerobel in 1632, though it was not tested till 1639. The accredited date of its introduction into Europe is 1640. The Countess of Cinchon, wife of the Viceroy of Peru, having been cured of an intermittent by the use of bark, on her return into Europe in 1639 carried some of the precious remedy with her. In honor of this Countess Linneus, nearly a century afterwards named it Cinchona Officinalis. About 1649 it was introduced into Rome by the Jesuits, who from this time were active in promoting its adoption. From this circumstance it received the appellation of "Jesuits bark," "Jesuits powder" &c&c. At length it fell into disuse. But so invaluable a remedy could not long lie concealed or forgotten. Sir Robert Talbor revived it in France; & of him Louis xiv.

purchased it & divulged the secret. It now became known as Talbor's powder or the "English remedy". From this time it was rapidly introduced throughout France, Germany, England &c. &c. It was not however, till 1737, that the botanical character of the tree that yields this bark was known. At this time La Condamine while traveling through South America, examined & published a full account of it in the Memoirs of the French Academy.

The plants which afford Cinchona are trees or shrubs. The genus is a very extensive family of the Nat. Or. Rubaceæ, class Pentandria, order Monogynia of Linnæus. Dr. Lindley mentions 26 species, 21 of which are well known. They inhabit the Andes from 11° N. Lat. to 20° S. Lat. at different elevations varying from 1,200 to 10,080 ft. above the level of the sea. The temperature varies with the altitude; but the average is estimated at 65° F.

The Cascarilleros or barkpeelers, says Mr. Stevenson fell the trees - strip off the bark - carry it from the wood & dry it in the sun. This should be done without delay according to Pöppig who assures us that it deteriorates rapidly if not dried soon. - Mr. Gray on the authority of Arrot, states that bark is peeled from the trees while standing. This is done about May according to both Ruiz & Pöppig. Others however, date the season from Sept. to Nov. Cinchona is exported from various ports of the Pacific coast of South America - also from the Atlantic. Arica, Lima, Valparaiso, Callao, Payta, Carthagena & Buenos Ayres &c. &c. are places of shipment.

Various cryptogamia of more or less importance are found upon Cinchona barks as Musci or Mosses - Lichens of several varieties - Hepatica 4 species - & Fungi - The presence of the latter is a bad characteristic, as they mostly grow on weak, decaying, or dead trees.

The coated barks, as the druggists call them, consist of an epidermis, rete Mucosum & cortical layers;- the inner being called the "Liber"- & the epidermis & rete mucosum, the "Coat".

The epidermis is variable in thickness & worthless. The rete Mucosum, lying directly under the epidermis, is a celular layer of no medicinal value. Next are the cortical, one of which is formed every year, & each is possessed of Therapeutic virtue; but the liber in the highest degree, owing to the presence in the latter of the Succus proprius in which the medicinal activity of the plant resides.

Bark may occur flat, depending on its inflexibility or the age of the stem from which it was taken - quilled partially, when the two edges approximate; closely, when the edges overlap each other; & doubly when each edge forms a separate cylinder. It may have a transverse fracture of 3 kinds - smooth, even or short - the resinous - & the fibrous - The resinous is preferred.

Barks are of different colors - as Gray yellow, red & White, with the intermediate shades, & are possessed of a bitter, astringent, aromatic taste.

They may be arranged according to their physical characters. Von Bergen admits 9 species; while Prof. Guibourt describes 37 varieties under 5 heads. All however may be treated under two heads; viz. Cinchonas True, & Cinchonas False. The first are chiefly from the genus Cinchona (De Cand). The 2d from allied genera. Eight genera embracing 46 species, all possessing febrifuge qualities in some degree, have been confounded under the term Cinchona, (De Cand.) Cinchonas True may be arranged under 3 classes -

Viz; Cinchona Palida,
Cinchona Flava, &
Cinchona Rubra. —

Pale barks, the Quinquinas gris of Guibourt, include the varieties known as Crown, Silver,

& Ash barks. To these Guibourt adds the Huanilies. They are chiefly derived from the Cinchona Condaminia of Humboldt & Bonpland. The latter asserts that this is by far the most valuable species of bark. This class is known in the U. S. under the title of Loxa barks, "crown bark of Loxa" &c. This however, is a provincialism, the application not being recognized by other countries. Genuine crown or Loxa bark is always met with in the form of coated quills - varying in length from 6 to 18 inches - in diameter from 2 to 12 lines - & in thickness from ⅓ to 2 lines. The epidermis is rough, of a grayish color, with transverse fissures. The inner surface is smooth & of a yellow or reddish hue. Its fracture is even & somewhat shining, its smell like that of tan, its taste bitter, astringent & aromatic. Crown bark was very early introduced into Europe & received its name from its having been first used by the royal family of Spain.

The Silver or gray bark occurs also in quills, but is coarser than crown, & is characterised by smoothness of surface, by greater thickness, a whitish epidermis with a cinnamon-brown "liber", by an even resinous fracture, clayish odor astringent, aromatic, & bitter taste.

The Ash Cinchonas do not differ essentially from the foregoing except that they are remarkable for their crookedness—

Pale barks contain both quinia & cinchonia but they yield so small a portion of quinia that they are never used for the manufacture of that alkali. Cinchonia abounds in this bark, & as it is supposed to be not in the least inferior to quinia, on the failure of the latter, the pale bark would be immediately brought into general use for the extract of the former. According to Pelletier & Caventou Pale barks contain kinate of cinchonia, kinate of quinia, tannin, red cinchonic, yellow coloring matter, kinate of lime, gum & lignin----

The yellow (Calisaya seu regia) bark occurs in both quills & flat pieces. The quills are much larger & coarser than those of the pale; & vary in length from 3 to 18 inches in diameter from 2 to 24 lines, & in thickness from ½ a line to 7. The flat pieces are from 3 to 15 inches in length - from one to 3 in breadth & in thickness from 1 to 5 lines - The epidermis is tasteless & worthless. The larger specimens of the yellow barks are rough, thick & indented by transverse fissures. Flat barks are generally destitute of epidermis, thicker more fibrous in texture, less bitter & possessed of less medical virtue. The genuine Calisaya are remarkable for their intense bitterness with but little astringency - for their fine orange yellow color & for containing a large proportion of quinia with a small amount of Cinchonia -

This species is produced in Bolivia in the province of La Paz, & is shipped

from Buenos Ayres as well as various ports of the Pacific coast. Yellow Calisaya contains the same chemical properties as the pale, except gum, but in different proportions.

Its derivation is yet obscure.

Cinchona Rubra—

is met with in quills or flat pieces. The quills vary from a line to an inch or more in ~~thickness~~ diameter - are less than 2 lines thick, & from 2 to 14 inches long. The species affording red bark is yet unascertained — The red is one of the most valuable kinds of bark - yielding both quinia & cinchonia - Soubeiran states that ℥ij of quinia & one of cinchonia are obtained from one pound of deep red bark. According to Pelletier & Caventou it contains the same chemical properties

as the Calisaya but in different proportions.

Carthagena Barks--

are those which are exported from the Atlantic ports of Columbia. They may be divided into three classes--

1st " Yellow Carthagena Barks—

2d " Brown Carthagena Barks—

3d " Red Carthagena Barks—

These are all more or less characterized by a whitish, micacious epidermis. They possess cinchonia & quinia, but in so small proportions as to render them of little value. — — — —

False Cinchonas--

are such barks as have been mixed with, or introduced as cinchonas, but are not derived from any species of Cinchona, & are destitute of the virtues of Peruvian Bark. They are obtained from the West Indies, Mexico, Brazil, Peru, &c.

Chemical Properties.

Few articles of the Materia Medica have undergone more chemical analyses than Cinchona. As early as 1802 Seguin formed the opinion that the active principle was gelatine since it was precipitated by an infusion of Galls But the following year the Younger Dr. Duncan disproved the correctness of the opinion showing that the active principle must be a "subsequent sui generis" which he called Cinchonia. In 1816 Gomes isolated & obtained cinchonia in crystaline form. But it was not till 1820 that the existence of two vegetable alkaloids was announced by Pelletier & Caventou. In 1829 a third alkali was discovered by Pelletier & Caviol.

These alkaloids have been named - Cinchonia, Quinia, & Aricina -

Pure Cinchonia - consists of fine white, inodorous, transparent - needle shaped crystals, - It is soluble in alcohol when hot, less so in ether, slightly in the fixed oils - in Ol. Terebin.

& readily dissolves in dilute acids. This is obtained by precipitation from a salt of cinchonia by ammonia. It readily forms compounds by uniting with, & neutralizing acids. Most of these are soluble in hot water & alcohol.

Quinia is formed by precipitating a solution of the Disulphate by ammonia. It occurs in pearly, needleshaped crystals - is inodorous - intensely bitter, & is soluble in water. The salts of Quinia are crystalizable & mostly soluble in water, alcohol & ether.

Aricina occurs in white crystals resembling cinchonia.

In these Alkaloids reside the active principles - the tonic & anti-periodic virtues of bark.

Those barks are esteemed the best which contain the greatest abundance of the vegetable alkalis & tannic acid. Indeed those barks are most efficient whose infusions are most strongly affected by a solution of gelatine,

sesquiferuginous salts, & emetic tartar, (ie) those that contain most tannin. Hence the chemical tests for good bark are those that detect the alkalis & tannic acid.

Tests for tannic acid are –

1st " A solution of gelatine –

2d " A solution of a sesquiferuginous salt,

& 3d " A solution of Emetic tartar.

Those for the alkaloids are of two kinds, Those that precipitate; & those that extract them.

Tannic acid, chloride of Platinum, bichloride of Mercury &c. precipitate; & alcohol acidulated either with or without a previous use of alkaline solutions &c. extract the alkalis. - - - - - -

Physiological Action. - - -

The physiological effects of bark are various & striking. It acts, no doubt, in part by virtue of its astringent property, by condensing & contracting the animal fibre & partly by stimulating the nerves. Its topical action is chiefly astringent & slightly irritant;-

Its constitutional effects are observed by its action on the vascular & cerebro-spinal systems. On these cinchona usually acts as a stimulant or irritant. Under certain circumstances it is tonic stomachic & corroborant.

Given to man in a perfectly healthy state in moderate doses its effects are trifling; & in large doses the prima via become disordered, producing nausea, vomiting, thirst loss of appetite, constipation or purging &c, & the cerebro-spinal system is more or less disturbed, giving rise to giddiness severe headache &c. &c. This illustrates the principle that no man should ever attempt to ingest anything that nature does not demand; & shows that perfect health cannot be improved or augmented; even by the best of tonics; & by consequence, none but morbid conditions can be benefited by stimulants, cordials, or other Medicinal agents.

When given to a patient suffering

from general debility, with a disposition to inordinate secretions - bark tends to restore a healthy tone to all the fibres, improve the appetite, promote the ~~formation~~ functions of digestion, & thereby increase the formation of Chyle; & furnish, per secundas vias, to the system a far greater amount of nutriment. Thus the blood becomes enriched, & through it the muscles are rendered more powerful & elastic; they lose their flabbiness, become firmer, more consistent, & gradually acquire their wonted strength. - -

But how does Bark accomplish this? Probably chiefly by acting on the nerves of the Stomach, & through them by irradiations extending through all the ramifications of the fibrous system, where nervous influence is felt. In this way it may indirectly affect the contractility of the muscles & also their nutrition. Every one is familiar with the fact that some people have a sort of "common feeling" which enables them to predict with con-

siderable accuracy an approaching storm. Their ~~feelings~~ spirits are elevated when the atmosphere is clear & dense, but depressed when it is moist & light. In fact they are human barometers —

Also if a man in perfect health be affected by the contagion of a malignant of disease or fever, his muscles at once become weak, & he is unable to support as many ounces, it may be, as a day or two previous he could pounds.

Now this effect could hardly be brought about by mechanical or physical alteration of the muscular fibre, but rather from impaired innervation, with, perhaps, some exhaustion of muscular contractility. If so (& I believe Physiology & pathology will support the position) we may consider want of tone, in general, to depend chiefly on the absence of a proper nervous energy, or a morbid nervous influx; together with undue contractility of the fibres of the muscles. Tonics by exciting the nerves of the stomach & through them those of the whole system, produce a salutary

influence over the capillaries, increasing their action, & by them the nutrition of the muscles.

This is no doubt one of the methods in which bark produces its salutary results;- for it is well known that it is best adapted to diseases in which the innervation of the system is more or less impaired. Bark may act by more directly promoting the digestive functions, & so improving the condition of the chylopoietic organs as to enable them to derive a larger amount of nutriment from the ingesta than they could possibly unassisted. This would be accomplishing much since the growth, repair, & nourishment of all the organs & tissues of the system depend almost exclusively upon the amount & healthfulness of the chyle. Or by being absorbed, as it really is, it having been detected in the urine, bark may produce the same beneficial results by acting on the various fibres with which it may come in contact while passing along with the blood. Indeed it is not improbable that

bark produces its happy results by the simultaneous exercise of all these methods of acting.

The Alkaloids produce constitutional effects precisely similar to those of bark; but are much more energetic. These effects are threefold - viz; 1st Irritation of the mucous coats of the stomach & alimentary canal — 2d Increased activity of the vascular system. & 3d Excitement of the Cerebro-Spinal functions.

Contraindications.

From the above we may infer that bark & its preparations are in general contraindicated by inflamation, general or local; active hemorrhages; plethora; tendency of blood to the brain; febrile diseases with symptoms of inflamation of the mucous coats of the Alimentary canal; tenderness developed by pressure on the Abdomen; with red, brown, or dry tongue; all acute diseases of the mucous membranes of the prima viae &c. To this rule we may except some phlogistic conditions in which the inflamation is subsiding. —

Indications.

Bark is indicated in all periodical and intermittent diseases; in cases of debility characterised by atony & want of cohesion of the solids, & accompanied by inordinate discharges from the secerning organs; in the declining stages of inflamatory diseases; in the convalescence of some fevers; in passive hemorrhages; in chronic diseases of the primæ viæ &c. &c. As a topical agent it is indicated by relaxation, with profuse secretion or otherwise & in cases of poisoning by agents whose compounds with tannic acid are not easily dissolved - - - - - - - - - -

Typhoid Fever:—

As a tonic in the adynamic forms of typhoid fever where the exhaustion of muscular strength is extreme Chomel makes free use of Cinchona in the form of extract. He also exhibits it in the form of decoction & infusion sweetened well, with syrup of lemons = Also in the

form of enemata. Louis also employs cinchona & its preparations in Typhoid fever under similar circumstances. He prefers sulphate of quinine administered in an aromatic or mucilaginous draught, giving at the same time a sweetened infusion of Cinchona as a beverage.

In Typhus fever bark is given in decoction made with wine, serpentaria or aromatics, almost ab initio, if the symptoms indicate prostration. Elliotson commends the use of bark in some stages succeeding that of excitement, when the powers of the system begin to sink. —

It is highly recommended by Dr. Wood in Scarlatina Maligna, whenever symptoms of debility occur. Eberle lauds its use in the last stage of Scarlatina Anginosa when there is great prostration of strength with putrescency & a tendency to gangrene in the throat:—

Bark is often of advantage says Dr Watson, in Small Pox used in conjunction with acids & opiates, whenever the pustules are livid inter-

mixed with petechiæ, & Typhoid symptoms occur. Dr. Wood recommends the sulphate of quinine or the comp. inf. of bark, to support the system under the prostrating effects of suppuration in the same disease. In the treatment of Erysipelas bark has been commended by men of high authority & large experience. Among them are Drs. Fordyce, Wells & Heberden. Dr. Jackson of our own country, asserts, that after purging (& emesis if necessary) quinine should be given as freely as the patient can bear it; even from 12 to 24 grs per diem, judging of the sufficiency of the dose by the buzzing in the ears.

Dr. Elliotson remarks that he has never seen quina do harm, even in active, tonic erysipelas. Dr. Wood recommends it in the Typhoid type, with a feeble pulse & a tendency to gangrene. Dr. Fordyce administered bark in drachm doses every hour with abundant success. Sir Gilbert Blane declares, "bark is the best remedy in Erysipelas. Prof. N. R. Smith uses it with signal success.

In scrofulous diseases - in cases of flabby ulcers disposed to form fungous granulations, & in enlarged glands with weak habit & feeble pulse, it is a powerful remedial agent acting, it is supposed, as a resolvent & discutient. Dr. Fordyce lauds its exhibition in strumous ulcerations, & in glecty phagedenic, & semiganguenous sores -

In Scrofulous Ophthalmia quinia is all-important. Dr. Makenzie of Glasgow, affirms that its curative effects in a great proportion of cases in which he employed it "were very remarkable" - that in a majority of children, "it acted like a charm". Sir, Astley Cooper indulges in like praise -

To ensure success however any disordered condition of the prima via should be previously corrected by the exhibition of Mercurial or other purgatives. In passive hemorrhages, & those which arise from a constitutional or hereditary predisposition, where the blood is evidently deficient in coagulability, bark may be used to advantage aided by a diet of animal food.

In all cases of periodical hemorrhage with short intervals, quinine is of great utility, though its Methodus Medendi in such cases is wholly inexplicable. In some forms of Dyspepsia attended by anorexia growing out of chronic, atonic affections of the Alimentary canal, bark is exhibited with advantage. In such cases its action no doubt consists in increasing & elevating the tone of the irritable fibres & those of the vessels, &, by diminishing the too abundant secretions arising from atony of the extremities of the vessels. Peruvian Bark has often been prescribed in Mortification or Gangrene, & is an agent of unquestionable utility in cases depending on debility or deficiency of action — but when it depends on super-excitement, it proves injurious if administered before the subsidence of the inflamation. There is no doubt of its efficacy in sustaining the drooping powers of the system under such circumstances, & promoting the separation of the dead parts. Some deny to

bark any salutary power in such cases — but it is very probable that if it possesses the power of increasing the vitality of the living tissues, & exalting the tone of the irritable fibres, & the fibres of the vessels — which is conceded by all — that its action will greatly promote the vitality of the living tissues bordering on & in contact with the dead fibres, & favor their separation, & thus assist Nature in effecting the desired resolution. But Mortification is not always the result, or an event of inflamation. It may result from an impoverished state of the blood — by mal-nutrition & the consequent sinking of the vital forces, without the intervention of inflamation. As in the Sphacelus induced by the consumption of the Secale cornutum so often seen in Europe; & that also from the use of spurred wheat in our own country. For relief in such cases bark is often prescribed in moderate or even full doses with success —

In immoderate mucous discharges dependent on great debility, as in gleet or Leu-

corrhea it is often beneficial by exalting the tone of the secreting surfaces of the mucous membranes, by increasing the cohesion of the ultimate fibres, & thus destroying the atony of the extremities of the vessels. Bark may also prove highly useful in excessive secretion of the bronchial mucous coats, by increasing the vitality & producing a more healthy action. — In chronic diarrhea where the secerning surfaces, labor under morbid sensibility, or extreme debility, giving rise to undue & unhealthy performance of the functions concerned. bark may, by improving the crasis of the blood stimulating the fibres of the vessels to proper action & constringing the fibres of the organic structure so correct the sensibility of the part, whether depraved, deficient or abnormally increased, as to completely dissipate the disease & restore to the part the healthy performance of its important functions.

The efficacy of bark has been lauded by Drs Morton & Haygarth &c. in acute Rheumatism. The latter gave it in this disease in doses of v. to x grs. every 2 or 3 hours, after evacuating the bowels

—

by use of Antimony. If this did not succeed he increased the dose to xx – xxx & even xl gts. & asserts that in a majority of cases the inflamatory symptoms gave way & health & was perfectly restored. This treatment not being countenanced by the profession fell into disuse. Within a few years M. Briquet of the Lea Charita Paris, has proposed the plan of giving large doses of quinine in acute Rheumatism & carried it into practice with most surprising results, curing the disease almost as promptly as intermittents by the same remedy. He exhibited in divided doses from ʒj to ʒjß per day, & by this heroic treatment succeeded in suppressing the external inflamation. This practice was also abandoned: But a reaction has taken place & several of the Hospital Physicians of Paris are in favor with the treatment. Some object to the use of quinine in such cases because it does not uniformly prevent cardiac complication. But what medicine does? Experience shows that the antiphlogistic treatment is often inadequate.

In all neuralgic diseases - Hemicrania - some forms of epilepsy - low stages of suppurative fever - in Dropsy, chorea, Hysteria, cachectic habits. Pertussis, & in Gout, bark is often exhibited with success. Also in spasmodic stricture of the urethra. It is used as an errhine with snuff. In conjunction with iron it is sometimes diuretic. (Prof. Power)

As an

Antiperiodic and Febrifuge.

Bark is not only beyond comparison the most powerful of all vegetable tonics, but is antiperiodic & febrifuge in an eminent degree, Indeed it is so preeminently distinguished for these properties that is has obtained the name of Specific. As an antiperiodic & febrifuge there is but one remedy in the Materia Medica that deserves comparison with it; viz. Arsenic & its preparations. What Arsenic is to lepra; Mercury to syphilis; Sulphur to itch; Cinchona is to intermittent

fever. Yet its Methodus Medendi in periodic diseases where its therapeutic power is greatest, is wholly inexplicable. The most profoundly acute & discriminative minds though aided by extensive observation & large experience are compelled to desist from the inquiry into the mystery of its operation, & fall back upon the simple & unsatisfactory reply to the quo modo of its action: It acts like a specific!! This is owing in part to the obscurity of the disease either in regard to its seat & nature or the uncertainty & ignorance in which its cause is enveloped.

Medicines sometimes exert important influences upon the system & effect certain undeniable results which cannot be accounted for on any known physiological principles. Bark, as an antiperiodic, thus acts - acts with incomparable energy - & with the happiest results when judiciously exhibited.

— — —

As a Febrifuge bark allays pain, reduces the frequency of the pulse, relieves congestion by equallizing the circulation, removes the burning heat by promoting free perspiration — & this probably through its tonic power.

It augments the tonicity of the nervous system — allays nervous irritation by increasing the cohesion of the fibres of the solids & those of organic life — & by constringing the fibres of the vessels — preventing or obviating profuse discharges.

Its primary & direct action is probably on the nervous system, & indirectly through the agency of the nerves, upon the system of circulation. Fever consists in a Morbid condition of the functions of the nervous system together with an unhealthy condition of the sanguinous system. — Now if either of these systems can be restored to a healthy

normal action its effects on the other would be most salutary. Nay would probably result in restoring the necessary "balance" of the two systems to a normal condition.

Now quinine exerts a specific influence on the nervous system, & probably arrests fever by augmenting the tonicity of the nerves, & or in other words by restoring their impaired energy — & thus indirectly controling the system of the circulation, & promoting between the two systems that harmonious equilibrium so essential to health.

Be this as it may, quina often has the effect of reducing the frequency & force of the pulse, & of relieving pain in the head. (Briquet).

In favor of the exhibition of quina during febrile excitement, with hot skin & frequent pulse as a febrifuge and sedative, we have the following

remark in Stokes & Bell's Practice: "A large dose of quinine acts at once, or very soon on the nervous system, & by diffusing the sedative influence throughout, all its parts, it completely allays irritation & induces general tranquility of the parts"

Intermittents.

For the cure of intermittent fever we have a specific in quinine. But here its use is pure empyricism. We know nothing of its modus operandi of curing — or of the nature of the periodicity of this disease. Observation has furnished us however with many facts resulting from the exhibition of quinine in this disease, by which we are enabled to manage it with safety & approximate certainty of success. We know that quina makes a powerful impression upon the brain & nervous system generally. This seems to intercept the paroxysm on the

principle that the human frame is so constituted or organised that it is incapable of supporting two abnormal or morbid actions at the same time. The periodicity of the paroxysm appears to depend on a chain of successive actions any link of which being broken the whole concatenation is distroyed, or its recurrence is indefinitely postponed. Quinine has the power of breaking this chain, & antagonizing its progress- just as a wave of light meeting another wave, obliterates it, restoring the original condition, perfect darkness.

It is however a question whether quinine should be employed in intermittents complicated with inflamation,— Some believe the stimulating properties of the medicine would be harmful by increasing the amount of inflamation- Others, that by its specific & febrifuge virtues, it will not only supervene the paroxysm, but

reduce the febrile excitement. - In regard to this a simple rule may be observed.

Whenever the intermittent is devoid of fever, quinine may always be given if the stomach will bear it. Should the inflamation be severe enough to cause fever, depletion may precede the antiperiodic remedy. In intermittents complicated with pneumonia quinine should at once be exhibited as it not only interups the paroxysm, but gives a more favorable character to the inflamation. In all dangerous cases quinine should be given despite of ordinary local inflamation, (Wood) & in general may be freely exhibited in pyrexia if combined with calomel. Enlargement of spleen strongly indicates its use as it is generally diminished by it.

The most appropriate time to

administer the specific is during the intermission. The only preparation necessary to its most favorable action is the exhibition of a purgative; as calomel & Rhubarb - or calomel followed by Ol. ricini. The length of the apyrexia varies considerable according as the type may be quotidian, tertian or quartan &c. In quotidian the intermittence is sometimes very short rendering it necessary to exhibit the remedy in large doses & at the earliest opportunity. In other types there is ample time if the patient is seen early. The amount of quinine to be administered during the apyrexia must vary according to the severity of the case. It should always be given pro re nata.

In general from 12 to 24 grs. should be given during the intermission.

Less than 12 would be useless, & more than 24 grs. in this latitude are seldom required. This should be given in divided doses of 2, 3 or 5 grs. at regular intervals. Some give large doses just prior to the paroxysm. Dr. Elliotson gave large doses immediately after the paroxysm. It is only necessary that it be so administered that it shall be in action at the coming-on of the paroxysm.

Opium is thought to increase the anti-periodic power of quinine. When the salt fails bark sometimes succeeds; or what is perhaps better - quinine with arsenic -

Quinine may be given in pill or in solution. In pill - it should be made with conserve of roses, & administered fresh made. In solution - in distilled water with a minim & a half of aromatic sulphuric acid to each grain of the salt.

The cerebral sensations may be looked

upon as indications of the action of the remedy & when they are present the Medicine need not be pushed farther. These are buzzing in the ears, deafness &c. &c.—

Some practitioners give large doses, 50-60 or even a 100 grs. in 24 hours without apparent discrimination; caring less to avoid the Scilla of excess, than the Charybdis of defeat.

But such heroic doses are allowable only when the case is desperate; & the briefness of time demands that the quantum sufficit, whatever it be, should be administered almost at once.

Should the stomach be irritated Sinc. Opii may be added, or it may be administered in the form of enemata, or sprinkled on the denuded surface, in which case larger quantities are required.

The remedy next in importance

in periodical diseases is Arsenic. & this differs from quinine in some important points, Quinine may be exhibited in large doses to check the paroxysm at once. While arsenic must be given in small doses & cautiously. The salt therefore has an advantage over arsenic in cases requiring immediate, positive treatment, Arsenic may however, be given without intermitting during the ~~paroxysm~~ pyrexia & is said to have cured sometimes when quinine has failed. In severe cases both may be combined.

In Malignant intermittents, congestive or Pernicious fever, when there is a distinct remission or intermission quinia is almost an infallible remedy - Dr. Wood observes; "It is the only remedy" - Here it may be freely exhibited. Heroic practice is all important. From xxx to cx grs. of the salt

may be given from the coming on of one paroxysm to that of the next.

Circumstances must control its administration. If time demands the above amount may be given in two doses or 3.

It is administered by some regardless of the remissions & exacerbations. I have seen this salt exhibited in this disease accompanied by congestion of the brain, muttering delirium, subsultus tendinum to the signal restoration of the patient.

Irritability of stomach being of secondary moment, in this disease, does not contra-indicate its use. Morphia or Opium may be combined with it, or it may be applied iatraleptically, or rather endermically, or per rectum. In either the paroxysm may be cut off or prevented - - -

In some forms of remittent fever quinine is an all important remedy.

Whenever there are no evidences

of cerebral or gastric inflamation & the circulation has been somewhat reduced, the use of quinine is strongly indicated. From 12 to 24 grs. of the salt may be exhibited between the remissions.

Such are some of the diseases & conditions of disease in treatment of which Cinchona or some of its preparations has been most happily exhibited.

But there are others in which it may be used to advantage. Indeed there is scarcely a malady in the whole nosology in some condition of which bark may not prove <u>remedial</u>.

In the foregoing I have endeavored with fairness & accuracy to treat of the properties & virtues of bark - its Physiological & Therapeutical effects on the human system - the philosophy of its action (so far as known) - its comparative & absolute value as a Tonic, Febrifuge, & Specific - together with the time & mode of its exhibition in various diseases ——

I have said but little comparatively - have left much unsaid - The latter I have not abused - but whether I have compromised right in the former I will leave to the nice discernment & candid judgment of those to whom this paper is most respectfully submitted.

An

Inaugural Dissertation

On

Asiatic Cholera

Submitted to the Examination

Of the

Provost Regents & Faculty of Physic

Of the

University of Maryland.

For the

Degree of Doctor of Medicine.

By

Chas. H. B. Mayfield

Kent Co

Maryland.

The subject I have chosen for a thesis for graduation is Cholera, a subject full of interest, both to the Student and observer. It opens to the view a vast area to explore; an unknown expanse to fathom: in which we may search and delight yet draw but a portion from this inexhaustible store.

The word Cholera is derived from the Greek χολη bile and ρεω to flow. Others prefer χαλεπος "the gutter of a house to carry off the rain." The former derivation rather from the appearance of bile in the discharges of the premonitory symptoms. The latter from the copious discharges of the confirmed stage.

To distinguish this variety from

others of a more simple nature it has received many qualifications. As The Cholera; Asiatic, Epidemic or Malignant Cholera: according to its character or original location. It is now styled emphatically The Cholera.

This disease has perhaps pervaded India from time immemorial in a mild form. In eighteen-hundred and seventeen it appeared in a type more malignant and, than ever before. It possessed also the remar(destructive) kable property of migrating. Leaving India writhing under the agonies of its devastating influence, it advanced in a north-westerly direction. In its onward march it encircled the Globe visiting every nation under the Sun depopulating cities, laying waste populous places and leaving its iron tread marks upon its footpaths in indelible letters.

As Dr Watson beautifully describes it "Moving onward, thus as it did in defiance of all natural and artificial barriers, under opposite extremes of temperature and climate; in the teeth of a tornado winds, over lofty mountain chains, across wide seas, through, hot, cold, frost, dry, onward and still onward.

In the year eighteen hundred and thirty two having reached Paris and London it made immense havoch among the poor, depraved, and feeble of those densely populated places. In the same year as with one bound it passed the Atlantic appearing first in Quebec then in the Mississippi valley. A detachment soon after made its appearance in New York. Thence spreading with frightful, rapid and alarming character through the greater portion of our country.

Thus we have followed it from county to county, sometimes marching with great rapidity, again slowly but surely. Then also it proceeded in a direct course so that it could be known when and where it would next appear. Its progress at times was arrested during winter, again it afforded no impediment to its onward progress. It again made its appearance in our cities two or three years after its first appearance but in a milder form and far more amenable to treatment.

Surprising to relate this scourge has again been cradled in India. It has taken the course formerly pursued and with giant strides visiting every clime. This its second visit has been attended with much less mortality than the first. Perhaps owing to the better treatment

it has received at the hands of our Profession or more probably to the milder character it has assumed on its present visit. At the time I now write this fearful pestilence is momentarily expected to appear in this city. The blood that is drawn from the arm presents that appearance peculiar to cholera - I mean black, non coagulable. In our western county on the banks of the far-reaching Mississippi it has been raging like a tornado; sweeping off thousands. Fear and the many exciting causes are preparing the eastern cities for the invasion, insuring to it an easy victory. The Influenza, forerunner of Cholera, has been in this City for some time and in many cases proved fatal by its complications. And yet we are not more prepared for its presence than we were seventeen years ago.

The cause or causes (or aetiology) of this morbus seems shrouded in inscrutable mystery. The gloom has never been sufficiently penetrated. All we have are the mere hypothesis of inquiring minds. It seems to depend upon some noxious material, some positive poison applied directly to the body. And casting about us for some medium through which it might be conducted, none seemed so convenient as the atmosphere. The deleterious influence pervading the aeriform matter and being generally diffused was the direct exciting cause. It was supposed to depend upon an insect inhabiting the air, but which has never been demonstrated by the eye or microscope. This point wants farther elucidation and demands more accurate research. Perhaps this may be the solution of this momentous subject

Another supposition was a deficiency of Electricity in the Atmosphere, but on analyzing, this hypothesis was found to be void of foundation. The deficiency if any exists, is merely owing to the moist, damp air.

Another cause predisposing to this state was the existence of a hot atmosphere loaded with moisture, and at the same time in a stagnant condition, independent of any chemical change which may have occured in the air itself. Supposing the last proposition to be well founded, that such a state or condition of the weather is the forerunner of Cholera, we can then approximate to the injury inflicted upon the system and the consequent phenomena. In the first place with an increase of temperature and moisture there is an augmentation of the health

and diminution of the specific gravity of the air; so that a volume sufficiently large to fill the lungs has a proportionally less quantity of oxygen. The debilitating effects of this upon the system is at once evident. The deteriorated condition of the blood; an excess of carbonaceous matter and diminished formation of fibrin and albumen, will give rise to an increased action on the part of the liver to remove the carbon. While the skin also stimulated has not only to carry off what the renal emunctories should eliminate, but the nitrogenized substances also. But in point of fact the superficial surface of the body is incapable of performing this onerous burden; and, the atmosphere would then be disqualified to take it up.

The atmosphere highly surcharged with aqueous vapour has at all times a tendency to the production of congestion. Therefore we see that the only known cause has independently the power of producing engorgement of internal veins and viscera.

The diagnosis is easy. Knowing the characteristics of the prevailing epidemic and observing the symptoms as they appear we are will be directed to the right conclusion. Yet there is no pathognomonic symptom which separates it from other watery fluxes.

We come now to examine into the symptomatology.

The disease has been divided into three stages. Therefore we will give the symptoms as they occur in the several stages. The first stage or Cholerine as it has been styled is premonitory of the severer form.

At the first invasion of the disease there is general lassitude and debility, an entire loss of appetite with vertigo, thirst, and suffusion of the countenance. Accompanying these symptoms are those of lumbago, nausea, vomiting of the contents of the stomach and rapid discharge of fæcal matters containing bile. If these signs of invasion are not checked by medical aid, the second stage will supervene from two to ten hours. In many cases there is no first stage, the second or stage of collapse being the first evidence we have of its presence. Again, the disease may be present, and, even death may occur without being any discharge from the stomach, or section. Upon a post-mortem examination we find an abundance of these peculiar fluids.

This state of collapse expresses a general condition, made up of many particulars. It is a sinking of the powers of life; depending upon an active cause. In this we have debility; cramp of the legs; abdomen and arms - at the same time becoming cold to the touch. Pulse is small, feeble, and frequent, and for some hours previous to death, none at the wrist. Eyes are sunken - conjunctiva dusky - skin tightly drawn over the nose, and cheeks presenting a gastly appearance. At times restless and much agitated, again entirely unconscious of his perilous condition, giving orders in a clear, fearless tone. The tooks emaciated as if from long sickness - presenting a livid appearance with finger nails blue, fingers and hands white, and corrugated. Breath cold - gases undeveloped, tongue cold & dry.

The three following are the most distressing and dangerous accompanying the disease. Pain at precordia, sickness, oppression and struggling of the heart. Cessation of the secretions of bile, and urine. Serous purging. All of these symptoms are the direct effect of too much blood being driven in upon the right side of the heart. Capilary circulation having entirely ceased. And this leads me to speak of the analogy between ague and cholera. An acute and accurate observer Dr C W Bell of Manchester has advocated this opinion with zeal. He supposes cholera to be merely a form of ague and its type quotidian. When we have determined the nature of ague and its treatment, we have the nature and treatment of cholera by he.

Ague is defined to be a paroxysm of

congestion of the internal veins; subsiding within twenty-four hours, and often followed by febrile action and relaxation of the capillaries.

There is a gradual change going on in the action of the extreme capillaries, an apparent constriction of their volume, by which the blood is rapidly driven inward upon the great veins. When this has gone so far; as materially to interfere with the hearts action, we have yawning, shivering and pain at precordia: indications of oppressed circulation, and efforts of the heart to overcome the mass of blood which is stifling it. But if, at this particular stage in ague; we apply tourniquets, or deplete, the paroxysm is staved off. But in Cholera we cannot relieve; merely palliate this cold stage.

In this the two differ, in the latter we have a larger dose of the poison to contend with. During the cold stage of ague, the spleen and large veins are capable of holding the superabundant blood, until relaxation of the spasmodic contraction of the capilaries. In Cholera the spasm is severe and continuous, that the spleen is not a reservoir of sufficient magnitude, and the excess passing freely through the portal vessels, distends and strains the cavae, and right auricle, giving rise to that peculiar churning sound. The same cause still acting, and the well-valved veins of the extremities permitting no regurgitation, and the engorged cavae incapable of no farther distention, the internal venous branches become loaded. Thus the renal veins are distended and the returning

current stopped effecting the cessation of the secretion of urine. In like manner the hepatic function is oppressed. These are mechanical effects; another, the serous purging is accomplished by the same means.

The portal circulation at first impeded by meeting the reflux, is soon reversed; and the blood thrown back upon the mesenteric veins, even to the ramifications on the mucous membrane, where it finds a vent. The force still acting presses out the fluid portion of the blood, and with it the mucous epithelium giving the appearance of rice water. Death most frequently occurs in this stage.

The third stage is the cessation of all the symptoms. In the East there is no convalescence; fever occurs from the cold stage. If the subject should be so fortunate as to be saved from this state of

collapse the phenomena that occur are disappearance of that bluish tint - brightening of the eyes - cessation of the cramp - the pulse returns to its natural fullness and strength. Thirst continues - intense headache, a little urine is passed - the evacuations lessen, and bile makes its appearance.

If we draw blood, even from them in every respect well, it presents that peculiar black, tarry, thick, appearance. Upon analysis, it is found deficient in salt, a third, a diminution of its watery particles, and an excess of urea, which are probably only secondary, thereby rendering the blood unfit for the performance of its office.

The Prognosis in the first stage is favorable; in the second, grave in the extreme. The tendency is to death and that too in very short time.

All that the most careful dissections have taught us, is, that there is no certain or essential pathology of the epidemics. The alimentary canal, contains liquid substances similar to those that have issued from the intestines during life: the glands of Peyer & Brunner are large and turnid. The veins are loaded with the characteristic black blood - the bladder is empty and contracted. There is a curious train of phenomena appearing after death. A short time after all signs of animation have ceased, there takes place spasmodic twitchings and vermicular motions of the muscles: and frequently distinct movements of the limbs, even to rising into a sitting posture. The cause of these motions has not been accurately accounted for.

In the first stage, the treatment is specific. It must be prompt, and decided. The remedies that are applicable in diarrhoea are suitable here. In the first place the patient should be placed in bed, and a pediluvia, with mustard, should be directed. Quiet, and repose, should be strictly enforced. Astringents, opiates, and stimulants, are the indications. The following combination, is found to answer the purpose excellently: ℞ five grains of acetate of lead with one-fourth of a grain of morphia in pill and repeated if necessary.
An opiate injection or the chalk mixture with opium and an aromatic confection. Effervescing draughts, with tincture of opium, to allay the vomiting. These measures will usuly prevent the disease from going into the second and truly dangerous stage.

On the following day, a mild cathartic should be given, and great care and circumspection, should be observed on the part of the patient. By these simple means we shall have the satisfaction of seeing him, thus opportunely snatched from imminent peril.

When the second stage has set in the indication is depletion. And the question naturally arises how? when? and its effects on the disease?

First as to the place: We cannot approach nearer to the place of engorgement than the arm, therefore it is advisable to open a vein there. Also a vein may be opened in the foot and the foot placed in a hot bath.

The flow of blood acts beneficially in three ways. By mechanically relieving the congestion: secondly, by the renewed motion of blood exciting

the general circulation by continuous sympathy: and lastly by relaxing the capilary constriction. Some ignorant of the indication and desirous of doing something, open the temporal artery, thereby cutting off the small current of life remaining. With regard to the time the lancet may be used any time while the vomiting and purging continues excessive. the heart acting laboriously to rid itself of the excessive amount of blood driven upon it and patient in highest stage of excitement. When the contrary of these conditions exist let the medical attendent refrain from using the lancet. After this excitement there will be a calm in which a little warmth will appear upon the surface, and the patients mind will be much relieved. At this period medicine should be administered. for now it would be hurtful to bleed, also medicine can act, which it could not before.

We can understand how blistering beneficially when timely resorted to.

The heart's action is interfered with by an excessive amount of blood being pressed upon it from behind and resistance offered to it in front by capilary spasm:

Depletion gives relief from pressure a tergo and aids in relaxation of the spasm: also reducing the conjested state of the great secreting organs; enlisting their sympathies in support of vital action.

If we were not present in the first paroxysm, we should narrowly watch for the appearance of the second then apply the lancet.

The amount of blood to be taken varies according to the time in which phlebotomy was practised. If in the early stage of the first paroxysm, a large amount may be drawn, before the necessary impression is obtained. Later in first paroxysm, less.

The next in importance to blood-letting was the administration of internal remedies. Those that invigorate and regulate the circulation generally; seem to be indicated. Some authors advise large doses of calomel and opium, and many combine many articles of the materia-medica and cast them upon the stomach in large quantities: perhaps with no benefit and often with injury. Stimulants have been employed to induce the heart to further action, which only tend sooner to exhaust its remaining power. Mr. Walker has stated that he cured several hundred **slaves**, by the timely administration of the following receipt.
℞ Calomel; opium; capsicum; ā ā gr. at the same time using friction to recall warmth to the surface. Another specific was the internal use of stimulants; at the same time opening a vein in one foot, and placing both feet up to the knees in hot water.

Dr. C. W. Bell, who has had large experience in the treatment of cholera patients and much success advises the following recipe.
℞ Quinae: sulph gr. xx.; ferri, sulph gr. x.; acid sulph: dilut, ♏ 40; aquae puae, ozs: Epsom salts ℥i. Misce: Wine glass full every ½ minute
He gives the quinine as anti-periodic, and the iron, as an anti-emetic. The magnesia acts beneficially perhaps by supplying to the blood saline matter by endosmosis.
Among the many curious and dangerous practices was transfusion, the violent introduction of water and salt into the veins. A practice which it is useless to say was more attended by any good results. The plausible reason for this practice, was supplying to the blood what it had become deficient in water and salt.
The adjuvants of stimulants, to the opium, was, in some instances, attended with happy results.

The hydropathic treatment was said by the devotees of that school, to have been eminently successful.

Dr Priessnitz the founder of water-treatment had many cases under his care and according to his usual success lost none. In slight cases tepid sitz baths of two hours duration with frictions and tepid injections were sufficient for a radical cure. In more serious when convulsions, and the state of collapse had fully set in; the patient was put in a tub bath, and, rubed untill the body became warmed, and steamed. After becoming rested, and dried, he was coupled in wet sheets, and perspiration encouraged. Besides this; frequent tepid injections were administered. Cold water, or ice were freely permitted to the patient, to allay thirst, and soothe the mucous membrane.

Dr Chapman of University of Pennsylvania recommends the giving of ice and the coldest drinks to the full extent of the patients thirst, believing it the best method that can be adopted in the treatment of Cholera.

Dr Caspar of Berlin was also successful in his management. His plan was this: if the patients skin was dry and withered, he was placed in a dry tub: if soft with a clammy perspiration in a lukewarm water bath, reaching to the navel. Then four or five pailsfull of quite cold water are thrown over the head, chest, and back, downwards; at the same time ice cold water two or three pailsfull are thrown horizontally against the chest from the end of the bath.

All of which is done quickly and the patient put to bed, at the expiration of three or four hours the same treatment is repeated. During the interval ice cold bandages are kept constantly applied to the chest and abdomen. To the head bladders of ice or cold compresses to prevent the access of nervous fever, which frequently succeeds an attack of Cholera. Cold water is, at the same time allowed ad libitum.

The management of patients labouring under this disease simply by cold water may please some persons but it never can come into universal practice.

The success attending this practice if true is truly astonishing. The wonderful cures performed by those adhering to the doctrines of Priessnitz should elicit attention from all and if there is any real virtue there it should be extracted by the profession.

One of the great adjuvant means in the hands of the physician in his attendance upon this derangement is friction. It is second to no means we can employ. For Medicine is unable to exert its known power upon the system from not being absorbed. It acts as a revulsive in restoring warmth to the surface. The best substances to be rubbed upon the skin are those that exert a rubefacient action. Capsicum rubbed to the consistence of jelly with alcohol and mixed with twice its quantity of adeps. Ables four ounces of capsicum pods, macerated a week, with twelve ounces of alcohol, filtered to which may be added four grains of Delphinia or veratria. Dr Lee of New York rubbed over the whole body mercurial ointment mixed with half its weight of Camphor and one quarter of its weight of Cayenne pepper, urged to salivation, with the happiest results.

The treatment that would produce the happiest effects in one case would perhaps be counter indicated in another case. Therefore our treatment would vary according to the character of the of the one in question. If a typhoid form it would be necessary to address the remedies to suit the case. As tincture of camphor, carbonate of amonia with infusion of serpentaria.

When reaction is established, the treatment must be made to conform to the variable morbid conditions presented and must be guided by the general principles applicable to other affections.

So far nothing has been said with regard to the Contagious property of Cholera. This has been a subject of dispute ever since the appearance of the Cholera. To my mind there is no longer any reasonable doubt as to its non-

contagiousness. Although a respectable list of accurate observers have recorded their testimony in favour of contagion. The evidence in behalf of its non-contagious properties preponderate greatly over that to the contrary. And one of the most conclusive facts on this side of the question is its penetrating the triple cordon sanitaire of the Prussian Government on the Oder, in eighteen-hundred-and-thirty one, and exactly, at the same rate before and, after encountering this formidable barrier. Here is one of the most conclusive facts that could be adduced to sustain any question. Let us take an another.

The natives of India who should be best qualified to judge of this subject, believe not in it; and if they had a shadow of doubt of truth of the opposite the Bengal coolies, who are proverbially the greatest-

cowards in existence, would not pass as they do quite unconcernedly a long side a dying man. This subject seems not to be settled yet for many take the contrary and advocate it with zeal. And among them is Dr Watson who enters at length upon the discussion of this interesting topic.

It is unnecessary for me in the short space of a thesis to enter farther into the subject. And I will remain satisfied with my opinion already formed and allow the same privilege to all others.

Prophylactic.

Having now treated at some length of the means to be used in an attack of this epidemic, it behoves me to say something of those means to be kept in view during the presence of this among us. Attention to diet during its rage is all important to every member of the community

Everything should be avoided that had the least tendency to disagree with the digestive functions. Although, while abstaining from all irritating and highly stimulating substances, care should be had not to fall in the other extreme. For this often occurs while avoiding Sybil we fall into Chyrbdis. So those articles of diet that are digestible and palatable should be rigidly adhered to: always sufficient for due nourishment. The best rule decidedly is to act just as we are accustomed to do on other occasions, abstaining from excesses of all kinds.

This ends my crude & hasty sketch of Cholera.

Chas. H. B. Mafsey
Fondovar.
Maryland.

March 15th 1848.

An Inaugural Dissertation On Phthisis

Submitted to the examination of the Provost, Regents & Faculty of Physic of the University of Maryland for the Degree of Dr of Medicine

By

Rufus Brace of Maryland

2

Among the various diseases to which the human race are subject, none, perhaps, has so effectually baffled the skill of medical men as Pulmonary.

With a firm conviction that the beneficent, & all wise Creator has provided a remedy, in the various productions of nature, for every disease to which man is subject, men of science & skill have, with untiring effort, searched the Animal, Vegetable & Mineral kingdoms, in vain for an agent, to arrest this fell destroyer. Yet, notwithstanding the efforts which have heretofore, been made to find a remedy for this disease, have been fruitless, the alarming prevalence of Consumption, still, affords ample field for the researches of any one who would become the benefactor of his race —

The bills of mortality taken in the

various cities of our northern & eastern States. Show us that it causes nearly one fifth of all the deaths that occur in those States, the greater proportion of which are not found in the humble walks of life but in the circles of gayety & fashion.

It is true it often occurs where the hum of laborious industry is heard, and among the miserably clad & destitute of our large cities, especially where a predisposition is inherited; but by far the greater number of cases occur among those over whom the empire of fashion holds absolute sway.

As phthisis presents a wide a field for investigation, it will not be our object in this treatise to speak of all the variations & complications of the disease, nor will we attempt to introduce the speculations & various theories advanced by numerous authors; but to treat of tubercular phthisis, exclusively as it occurs in its most common form, naming

only the most prominent symptoms, together with that form of treatment which appears most rational, and which is adopted and recommended by our most successful practitioners. To accomplish this an investigation of the pathological anatomy of the parts usually concerned will be found highly necessary. —

It is now generally admitted that phthisis first manifests itself in the formation or deposition of tubercles in the pulmonary tissue.

These tubercles vary much in their colour form &c, sometimes having a light, or dark red appearance; at others yellowish, but more frequently a greyish colour, sometimes nearly colourless. They appear to be composed of an inorganised homogeneous mass of a cheesy consistence, varying in size from a millet seed to a pea & sometimes much larger. The origin of tuberculous

matter has been a subject of much controversy. Some suppose it to be the result of inflammation, and, though it is evident that inflammation sometimes precedes the formation of tubercles, yet there are cases in which the slightest traces of it can not be found in the earlier stages. A strong argument given by Dr Wood of Phil. against the inflammatory origin, is that tubercles are less frequently found in those parts of the lungs where inflammation is most frequent.

Others think it depends on a "defect in the vitality of the fibrin of the blood which is incapable of developing within itself the germ-cells of healthy tissue and falls into a state of imperfect organization". These tubercles continue to enlarge by the addition of animal matter, with a small proportion of Phosphate and carbonate of lime until the stage of softening commences. This sometimes begins by a simultaneous breaking down of all the parts

of the mass, but more frequently commences at the centre and gradually advances towards the circumference, until the tubercle is transformed into a soft yellowish mass ~~—~~ much resembling pus. This confined matter proves to be a source of irritation to the surrounding tissue which passes through the stages of inflammation and ulceration and thereby opening a communication with the bronchial tubes. The matter now escapes and is expectorated, leaving a cavity. The cavities thus formed are sometimes isolated and when surrounded by healthy tissue, their walls have been known to contract, their opposite surfaces to unite and form a cicatrice which has remained harmless in the lungs, and the patient recover with an apparent immunity from the disease for a term of years, or until other tubercles soften which may not result so favourably.

But more frequently the tissue adjacent to the cavity is in an altered condition, containing, perhaps, other tubercles which gradually soften and are discharged. These cavities usually coalesce, obliterating the blood vessels and destroying the intervening tissue and thus forming vomicae of various dimensions. The lung is at length unable to perform its function and death speedily ensues.

In the advanced stages the bronchia are generally found inflamed and ulcers are sometimes found not only in the mucous surfaces of the bronchia, but in those of the trachea and larynx. When the disease is extensive the pleura pulmonalis often becomes inflamed and effusions of coagulable lymph occur which usually causes adhesions, either partial or general, of the pleura of the lungs with the pleura

intercostalis; thereby affording protection against a much more formidable accident; namely: perforation of the pulmonary pleura and the escape of tubercular matter into the serous cavity. We also find more or less inflammation and ulceration of the Stomach and intestinal canal. The liver is in that condition usually denominated fatty liver —

Various are the ways in which phthisis manifests itself. Sometimes and perhaps the most frequent indication of its approach is a dry cough, but, as there may be no derangement of the system, this, at first, is hardly noticed. But the cough gradually increases, attended with expectoration of mucous of a white frothy nature, and afterwards of an opaque substance of a yellowish or green colour. The appetite being good, and no emaciation, not much alarm is excited,

, and thus the patient may continue for weeks and months — At length the cough is found very obstinate, and some emaciation occurs, while there appears to be no failure of the digestive powers; the patient finds that on taking unusual exercise he has shortness of breath, and great fatigue.

The pulse too is often accelerated, and as the disease advances he begins to have some fever especially towards evening. His cheeks are flushed, and he experiences a sensation of heat in the palms of his hands and soles of his feet.

There may be, also, frequent pains sometimes in the side and under the sternum, but more frequently between the shoulders. There may be considerable dyspnea. Hemorrhage from the lungs is generally an accompaniment of these symptoms.

Certain physical signs are now plainly manifest — On applying the

ear over the clavicular region, respiration is found to be less distinct than natural. Percussion discovers a dulness in the same region.

There may be remissions in the above symptoms, but they generally go on increasing in severity — The cough occurring in paroxysms and often so severe as to disturb the patient at night. The fever also may occur in paroxysm, attended by profuse perspiration during sleep. The pulse becomes more and more frequent; the tongue is somewhat furred — The expectoration assumes more of a purulent, and the dyspnea and pains are also increased —

At this stage of the disease a gurgling sound is often heard over the seat of the tubercles, which, with the increase of fever and the character of the sputa which is decidedly purulent, gives us evidence of the softening and discharge of

tubercles into the bronchial ramifications and that a vomica is formed. The fever now assumes a decidedly hectic character, there is increased heat of skin, flushed cheeks, and a remarkable brilliancy of the eye — The cough becomes more and more troublesome, the expectoration is occasionally accompanied with softened tubercle in small lumps.

Chills may now occur followed again by fever. The perspiration during the night is profuse and extremely exhausting, and this together with the copious expectoration and consequent constitutional irritation hastens the process of debility and emaciation.

After the cavity in the lung has been emptied, these symptoms have been known (though rarely) to abate and the patient so far recover his health, as to have an apparent exemption from the disease for a term of years —

But if the disease progresses as it generally does, we have, in addition to previous symptoms, exhausting attacks of diarrhea, occasionally alternating with the night sweats; those with frequent irritibility of stomach, add greatly to the sufferings of the patient, — The breathing is now changed to what is called Amphoric or Cavernous respiration. The voice too is modified into that character usually denominated pectoriloquy.

As the disease advances to a fatal termination, new symptoms are developed, among which are oedema of the lower extremities, complete loss of the appetite, nausea, vomiting &c. The tongue looses its papillary appearance and is covered with an aphthous exudation. There is extreme emaciation; the muscles are wasted, the adipose tissue absorbed, the bones are prominent, the cheeks hollow and eyes sunken. The patient becomes extremely

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prostrated and respiration ceases simply from the fact that he has not sufficient strength to discharge the accumulations of pus in the lungs.

Some of the symptoms above enumerated may sometimes be absent. They are also liable to frequent variations in the period of their occurrence, their intensity &c.

The causes of phthisis may be divided into predisposing and exciting.

As tubercular consumption almost invariably results from a strumous diathesis, it is often transmitted from parent to child, and this hereditary tendency is decidedly the most powerful of the predisposing causes. It sometimes manifests itself in certain members of a family whose parents were of the scrofulous habit, while others are entirely exempt.

Again the immediate descendents of scrofulous parents may escape the

development of the disease, yet retain the predisposition and transmit it to their progeny. Confinement in impure air; sedentary habits; trades which in their operations require the bending or stooping posture; exhausting indulgencies; mental emotion. Dyspepsia and the influence of various debilitating diseases all act as predisposing causes —

Among the exciting causes may be ranked any and every thing that tends to irritate the lungs and thereby produce congestion and inflamation —

The vicissitudes of the weather; impure atmosphere; the inhalation of acrid and noxious gases &c; Causes that produce pneumonia and bronchitis, often through these give rise to phthisis — Occupations in which the lungs are exposed to irritating substances such as particles of metal, marble, and wood; — Consumption often ~~succeeds~~ proceeds the healing of longstanding, Scrofulous ulcers.

The diagnostic signs of phthisis are easily recognised in the last stage; but some discrimination is necessary in the earlier stages. Whenever there is a dry hacking cough, attended by a general emaciation, without any assignable cause; without loss of appetite or any apparent derangement of the system, with occasional pains in the side and between the shoulders, suspicion is easily excited as to the nature of the affection — If to these symptoms there be added occasional haemorrhage from the lungs, and dulness in percussion of over the summit of the lung, with some emaciation and expectoration, at first of a clear frothy, and afterwards of an opaque yellow or greenish sputa, there is hardly a doubt of the existence of tubercles in the lungs. —

The prognosis of phthisis is generally ~~fa~~ unfavourable. Yet there are instances in which all the symptoms

of the existence and softening of tubercles, the formation of abscess &c. have occurred and yet recovery has taken place: and the scrofulous diathesis so far subdued by hygenic and other treatment as to secure to the patient an apparent, and perhaps we may safely say, a certain immunity from the disease during a long life —

It is true we are without the evidence afforded by dissection, in cases of recovery; but in many instances, in persons who have died of other diseases at an advanced age, cicatrices have been found in those parts of the lungs where tubercles are most frequently found —

Nor is it altogether presumption to suppose that when an abscess has formed and its contents have been wholly discharged, that the lining membrane of the cavity may cease to secrete, the surrounding parenchyma of the lungs assume a healthy condition, and

cicatrization gradually take place with a final restoration to health.

Again it is thought by some that tubercles may be rendered harmless by the absorption of the albuminous portion of the tubercular matter, having a concretion which may not produce any irritation in the lungs.

When the symptoms common to the last stages of the disease are present, it is invariably fatal.—

In the treatment of consumption it should be borne in mind that tubercular deposits depend upon a morbid condition of the system; an unhealthy state of the blood &c, and that it should therefore be our first object to resort to such remedies as will correct this morbid condition, by imparting tone to all the organs, and thus promote a proper elaboration of food into good blood and secure a healthy deposition of fibrin —

To accomplish this, nothing can be of greater importance than strict attention to habits of exercise and diet. Perhaps no other remedy can accomplish more in the incipient stage of phthisis, than exercise. This should be as regular as possible, and in the open air, avoiding to a certain extent the inclemency and sudden vicissitudes of the weather. Every opportunity should be improved of exercising in, and inhaling a dry cool atmosphere. It may not be well to carry it so far as to produce much fatigue, but should be repeated daily and increased as much as can be comfortably borne.

Horse back rides as recommended by Sydenham, are, perhaps, of more value than any other method of exercise. These should be repeated daily and gradually extended from time to time, until he may be able to undertake a journey of considerable length, the accomplishment of which he will find of great benefit. —

With regard to diet, the patient should be allowed to eat almost any thing he pleases. Care being taken not to overload the stomach, or use such articles of food as would produce too great excitement. He may use the lighter meats, fish, oysters, stale bread, vegetables, fruits, wine, beer, water &c.; in fact every thing in moderation that imparts strength and does not produce much fever —

Removal to a warm climate has been highly recommended and in many cases has proved very beneficial; but as phthisis is found to be quite prevalent in warm latitudes, and as it is very well known, that the effect of a hot climate is to debilitate and effeminate the system, and that heated and rarefied air can not be as healthful to the lungs as moderately cool air, perhaps too much confidence has been placed in its salutary effects. — Is it not possible, that

in cases of recovery by removal to a warm climate, it was owing to a mere change of climate and not to any particular degree of temperature, and might not the same results be obtained in our own latitude by removal from where the disease originated; changing from the shores of seas and lakes to the interior; removing from mountains to valleys, and from valleys to mountains especially in summer; avoiding extremes of heat and cold, and all locations where damp changeable weather prevails. —

In addition to the above treatment there are certain medicines that assist very much in subverting the scrofulous diathesis — In cases of great debility, mild tonics have been used with very good effects. Among the vegetable, ~~tonics~~ none perhaps ranks higher than the prunus virginiana. This combines the advantage of an excellent

tonic to the digestive, with that of a sedative to the nervous and vascular systems. Steel often exercises a marked influence over the hectic fever, provided it is tolerated by the system — Preparations of Iron are of great value in cases of anemia. The inhalation of the vapour of Iodine or Creosote is thought to favour the process of cicatrization — Iodide of potassium and Cod liver Oil have acquired considerable reputation in the treatment of this disease, The latter has lately been introduced, and from its tendency to improve the general condition of the patient, has acquired a high reputation —

In the advanced stages of the disease, all that we can attempt to do is to relieve or mitigate the symptoms — and make the decline of the patient as easy as possible —

Should the cough be troublesome, it should be quieted by Opium or some of its preparations. One of the salts of morphia or paregoric will be found very useful. Prussic acid sometimes effectually allays this annoying symptom.

The exhausting night sweats that usually occur should be attended to. A very good remedy for this in most cases is dilute sulphuric acid. Should this not be tolerated the body may be sponged with warm vinegar and water &c.

If ulceration of the bowels occurs, the diarrhea which always results should be checked by the free use of Opium, acetate of lead, Catechu &c. Laudanum with chalk mixture, is sometimes very useful: or injections of Starch and Laudanum may be used.

Hemorrhage should be checked by acetate of lead or other astringents — If it proceed from congestion of the lungs, may apply cups or leeches, taking care to husband the strength as much as possible —

An

Inaugural Dissertation

on

Syphilis

Submitted to the examination

of the

Provost, Regents and Faculty

of Physic of the University

of Maryland

for the degree of Doctor of Medicine

By

Augustus G Owens of

A. A Co

Md

An
Inaugural dissertation
On Syphilis by
A. S. Cocus.

Syphilis

The origin of the venereal disease has long been a matter of doubt and of much controversy between many medical writers of great celebrity and talent. The one side maintaining the opinion that the disease has been known from the time that we have any medical records and consequently its great antiquity, and the other side, that the disease was first carried to Europe by Columbus on his return from the discovery of the West Indies at the latter end of the fifteenth century. Much has been written on both sides by men of the highest respectability as to talent but still the matter remains in statu quo; and where such persons have failed to convince but little can be expected from the humble efforts of a first course student.

Notwithstanding the

ingenious arguments adduced by many authors, there are circumstances that lead us to the belief that the venereal disease existed in all its forms prior to the return of Columbus from the western continent; and I hope to be able to prove the consequent overthrow of the title so long urged in favor of America, not for the purpose of fixing the stigma of its origin upon any one country, but to repel the many efforts that have from time to time been made to date the origin of this truly horrible and loathsome disease in America. Upon the first appearance of this disease, it was thought by some authors to be epidemic, and owing to the malignant influence of the stars; an unwholesome disposition in the air; divine displeasure &c. Others believed it to arise from morbid effluvia in the atmosphere, and endeavoured to sustain their opinions by the authority of Hippocrates.

who states that "the diseases that are produced by heat and humidity, are runnings from the eyes, pains in the ears, suppurations of the genital organs, ulceration of the mouth" &c. None can doubt the accuracy of these symptoms. His commentator Galen has described the disease as existing in his day with still greater accuracy. Celsus describes eight species of ulcer to which the genital organs were subject, three of which partake of a syphilitic nature, namely; "an ulcer which causes phymosis, but is readily cured by detergent washes; and the phagedenic and sloughing ulcers.

Among the earliest writers who ascribed the disease to the return of Columbus, was Leonard Schmaus, a physician of Strasburg. At the same time his countryman Matern Berlin, an eye witness to the disease at the time of its ravages of the southern portion of Europe; assigns to it a very different origin, and

declares it to have been a punishment inflicted upon Charles the eigth and his subjects by divine displeasure, in consequence of his carried off the duchess Anne of Bretagne from the Emperor Maximillian to whom she was betrothed.

The history and arguments adduced by Schmaus are in no degree satisfactory, being entirely destitute of proofs and authorities, and he obtained but few proselytes until Oviedo a Spanish physician adopted and promulgated his opinions from motives of personal interest, in fifteen hundred and thirty five. Salpelveda about the same time maintained the same opinion as Oviedo.

An Italian empiric, after Oviedo had published his work, propagated an extraordinary fable in regard to the origin of Syphilis. "The length of the seige of Naples, he says, having caused a famine the purveyors were obliged to cook human

flesh for the Soldiery: all who eat of this horrible aliment were affected with Syphilis which was disseminated by contagion throughout France, Italy, and Spain." Lord Bacon not only believed this tale, but added the weight of his powerful and ingenious arguments to render it more plausible.

Apart from the folly of this story — it is historically incorrect, for at the time mentioned, the city of Naples was not besieged by either Spaniards or French.

The Author who has done more than any other to disseminate the opinion of Oviedo, is the learned and indefatigable Astruc, a French physician who wrote in seventeen hundred and seventeen.

While Astruc admits of ulcers and bubos on the parts of generation prior to the return of Columbus, he contends that these same ulcers and bubos were not syphilitic because they could be cured by external means, — deeming nothing syphilitic that

could be so easily cured. Baptiste Fulgosi tells us that two years previous to the ~~arrival~~ arrival of Charles the eigth, in Italy a new disease was observed to which the physicians could neither give a name or oppose a remedy, it was called by the Italians, the French disease, and by the French, the Neapolitan disease.

Dr Thompson says, "That it is extremely improbable that sailors after a long and successful voyage landing on the northern coast of Spain, objects of curiosity, ready to embark again to reap the rewards of their discoveries and the wealth these countries were supposed to abound with, should be sent off to act as soldiers at the seige of Naples, labouring under a new and horrid disease, which must have been of some months duration and to have incapacitated them

for every kind of exertion.

That Columbus himself nor his brother who left such accurate accounts of his voyage, should not make the least mention of such a disease being discovered among the natives, or prevailing in the crews of their vessels, is certainly more difficult to be reconciled with reason and appears strong presumption of error. Had the crews been so affected it would surely have disabled them from duty, and would have required the notice of their commander. Since then there is no mention made of this disease prevailing in the fleet of Columbus, or of its existance among the savages he visited, is it not then idle to infer that its was brought by Columbus from America.

We have still the strongest proofs extant of Syphilis prevailing for centuries in Europe and Asia before the period mentioned by Oviedo, Astruc,

Carmichael and other writers who have done so much to fix the origin of Syphilis in America. Lanfranc states that ulcers proceed from hot pustules growing upon the penis, or from coition with a foul woman, who had lately had to do with a man whose penis was ulcerated. Guy de Chauliac treats of heat and foulness of the penis from lying with a foul woman. Peter de Argelata says that pustules arise on the penis, produced by a venemous matter deposited in the act of coition with an unhealthy woman, between the glans and the prepuce.

In eleven hundred and sixty the licensed houses of prostitution in England, were provided by the police with certain rules and regulations that were very rigidly enforced against any woman that was infected and still continued to prostitute herself. And

similar rules and regulations were provided throughout all Europe.

In thirteen hundred and forty seven Jane Queen of the Sicilies and Countess of Provence, for the regulation of the houses of Prostitution at Avignon, among other enactments made the following. "That on every Saturday the women of the house be singly examined by the Abess and a Surgeon appointed by the directors, and if any of them had contracted any disease by their whoring, they should be seperated from the rest and not be suffered to prostitute themselves for fear the youth that should have to do with them should catch their distempers.

And even in the Holy Writ we find the venereal disease described with too much precision to be mistaken. In the fifteenth chapter and sixteenth verse

of Levitieus, we find these words, "If any man's seed of copulation go out from him then he shall wash all his flesh in water, and be unclean untill even". We have also every reason to believe that the righteous king David was affected with this disease, from what we find in his writings. In the thirty eighth Psalm, third verse, he says "There is no soundness in my flesh because of thy anger, neither is their any rest in my bones because of my sin" and in the fifth verse "My wounds stink and are corrupt because of my foolishness." In the seventh verse, he says, "My loins are filled with a loathsome disease and there is no soundness in my flesh." And in the eleventh verse, "My lovers and my ~~frea~~ friends stand aloof from my sores and my kinsmen stand afar off."

And again in the first chapter

of Paul's epistle to the Romans, we find it refered to in the twenty seventh verse, "and likewise also the men, leaving the natural use of the woman, burned in their lust one to=ward another, men with men working that which is unseemly; and receiving in themselves that recompense of their error, which was meet."

Since then we can trace back Syphilis so long a time, why cast the odium of its origin upon the poor uneducated savages that inhabited this continent at the time it was discovered by Columbus, or why is the reproach thrown upon the Great Columbus and the gallant men who so nobly peilled their ~~lives~~ lives and fortunes, in the then considered hazardous attempt to cross the broad waste of waters, to seek the Western hostel, of introducing this horrid disease to Europe. Enough has

been written to convince any unprejudiced mind that Syphilis does not owe its origin to America. But when or where it originated Mankind alone appears to be susceptible of being infected by it.

Syphilis when suffered to run its course will generally show itself by two sets of symptoms, primary or local, and secondary or constitutional.

The first appearance or symptom that proves that a person has actually become infected is Chancre. Chancres may be known by its pale red hue, callous edges, indurated base, and its discharges serves producing new chancres wherever it may spread. Its most common situation being about the orifice of the urethra, on the glans penis or the prepuce, in men, and about the labia, nymphae, clitoris or lower portion of the vagina in

females. It generally appears on or about the sixth or the seventh day but the time of its making its appearance is so irregular in different persons that we can give no certain or exact period for its showing itself. frequently not appearing, in some cases for weeks and even months after the impure coition. Cases have been cited of its lying dormant in the system of the parent for years and at last making its appearance on the foetus in utero.

It may often degenerate into warts with which the genitals may become thickly studded as low down as the anus.

Primary ~~Syphilitic~~ Syphilitic ulcers have been, of late years, distinguished with great minuteness by Carmichael and others and have been arranged under different species, principally for the purpose of considering the propriety of using or withholding

mercurial remedies, Carmichael divides the venereal disease into four classes and asserts that but one of the four he describes, is capable of giving the true secondary or constitutional symptoms of Syphilis, viz the Hunterian Chancre

This however is by no means incontrovertible, as it has been established by competent testimony, that constitutional symptoms can arise from either of the four varieties he has mentioned.

Chancre may assume different appearances in different parts. The Chancre described by Hunter with so much precision, can be produced in the penis of a sound person, artificially, by escharotics, and the fact is well known that a person injected with only one form of the disease as described by Carmichael can give the same or any other form to another person. Dr Heusner says "Soldiers are gregarious in their

amours, and we have frequently several men at the same time in hospital infected by the same woman with whom they had connexion in very rapid succession some of whom have had one kind of sore, some another, and some both."

A Case is given by a french author of six men having connexion with the same woman in succession, and nearly every one of them being differently affected, two had chancres and bubos, two gonorrhea, one chancre alone, and the other bubo alone.

Cases have also been given of persons having all the forms of Syphilis mentioned by Carmichael in his discription at one and the same time. From the different constitutions of individuals and various modifications of habit, we can conceive that the sores even if they arise from the same person, are liable to different appearances on different persons and with all due deference

to the opinion of Carmichael we cannot agree with him in his classification of this disease, and believe that secondary symptoms may arise from any of his four classes beyond a doubt. The next local symptom is the formation of buts in the groin caused by the absorption of venereal matter from some surface where it has been formed or applied. The tumour when first perceived is small, hard and fixed with a dull aching pain but gradually enlarges becoming more acutely painful until it bursts or is opened with the lancet when it discharges a large quantity of pus.

The constitutional symptoms from the consequence of the matter produced by Chancre being absorbed and carried into the common circulation. Of these ulceration of the throat or eruption on the skin is generally the first to make its

appearance. The tonsils, uvula and tongue become ulcerated and the swallowing rendered difficult. These ulcers about the throat are of a peculiar character, being foul, covered with a brown or whitish slough, surrounded by a red and elevated outline. The skin is covered in many places with copper colored blotches. These spots are first succeeded by scurfs and scales, next scabs are produced and these falling off, leave a foul ulcer, which gradually increases in size and grows deeper. The discharges are of a highly offensive character. About the same time there will generally be inflammation of the conjunctiva. As the disease advances, the bones become affected and nodes, or enlargement of bone, is produced. The pains become so severe as to prevent sleep at night. The ulcerations of the throat spread, producing caries of the

bones of the nose and palate. The countenance becomes horribly disfigured and sallow, the hair becomes thin and without relief the patient leads a life of extreme suffering and at length falls a prey to Hectic fever.

Treatment. There is such a variety of opinions entertained by writers as to the treatment of Syphilis, that it would seem almost impossible to arrive at any satisfactory conclusions as to the proper mode of treating both the local and general symptoms, some concerning the use of mercury in all cases, others again contending that mercury is the only proper way of treating the disease, In my opinion though Syphilis may and has been cured by the use of other than mercurial remedies yet mercury I consider to be the only safe and certain cure of this disease in all its stages

kept as clean as possible. The patient at the same time may use mercury. About five grains of the blue pill should be taken every morning and night until salivation is pro=duced. The salivation should be kept up until the sore has healed but if it should become too excessive, the dose of blue pill should be decreased. Or if purging or griping be the result of the use of mercury, a small quantity of opium should be added to it, or the dose lessened.

When bubo is produced in the groin, it should be treated by rest, low diet or leeches, or strictly antiphlogistic treatment; Mercurial ointment should be rubbed upon the inside of the thighs, the axilla or under the knee. Generally should be done in the morning.

If the bubo should suppurate, it should laid open and afterwards dressed with emollient poultices or if not disposed to heal, nitric acid should be used. The surgeon should, however, be in no hurry in lancing but rather endeavour to procure its absorption. If the treatment for primary syphilis should fail and secondary symptoms set in, the disease then becomes far more difficult to manage. These symptoms generally follow the primary symptoms in about six to eight weeks, if at all but some times the constitutional symptoms appear after the patient been supposed well for several months, in all their violence.

The treatment proper at this stage of the disease has been a matter of much contention, but it must be admitted that all the forms of syphilis

will yield to the proper use of Mercury. It is true that sometimes some milder forms of the disease will yield to the Antimonials Sarsparilla Aperients Deliquents drinks, Vaporizating Vapor Warm bath &c but where these fail we have at length to resort to the mercurial preparations to bring about a cure. Of the different preparations of Mercury, there is a difference of opinion, as to which is the best. I should use in recent cases the blue pill in doses of from four to six grains morning and night; to be lessened or increased if necessary. Where the disease has existed a longer time and where the symptoms are more severe, I should use the oxymurials of Mercury. The Iodide of Potassa has been spoken of very highly as a remedy. The Extract of Cicuta also has been used especially

I have endeavoured to give some idea of the origin symptoms and treatment of Syphilis, a subject that has been much written upon by much abler heads than mine ever will be, but when we see the columns of our newspapers filled with puffs of quacks and advertisements of patent medicines with a view to entice the young unsuspecting persons who may be labouring under this disease, and after having stripped him of his cash send him forth far worse than he was before he fell into their clutches! it is enough to excite the indignation of any man of feeling or humanity.

I am fully sensible that this essay is deficient, being written in a hurry, yet I am sure the gentlemen of the faculty will look over its imperfections slightly.

AN INAUGURAL DISSERTation.

ON

PNEUMONIA

Submitted to the examination of the Provost Regents.

AND

FACULTY OF PHYSIC.

OF THE

UNIVERSITY OF MARYLAND.

For the degree of

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Introduction

The Professors of the University of Maryland, having made it a prerequisite, in accordance, with that time honoured custom, in all well regulated Medical Institutions, that each candidate for graduation, should submit, a Thesis or dissertation, of his own composition, upon some medical subject, for their inspection: I herewith, in compliance with this regulation, present for their consideration an Essay upon Pneumonia = I have endeavoured to delineate the disease, as faithfully, as I possibly could; gleaning my materials, from a variety of sources, and often using the language of writers upon the disease, and even, expressing their ideas, without referring to them, assured that by making a distinct reference to them, would extend this Essay to an almost indefinite length: Should this Essay meet with the approbation of the Faculty, and be received by them, with favour, I shall be amply remunerated for the time and trouble which it has cost me in its preparation

added to the anxiety which, this my first attempt, has necessarily awakened in my mind. At the same time, I must throw myself upon their indulgence, and beg, that its composition, be not scrutinized with a critics eye; sensible as I am, of its defects, both in style and accuracy of language — I have aimed more, at elucidation, than style in its composition, and hope, that if I have succeeded in this, its other demerits will be overlooked =

Pneumonia

By the term Pneumonia, I mean an inflammation of the substance, or parenchyma of the Lungs; that is the vesicular termination of the Bronchial tubes and the cellular tissue connecting them. This is now the universally received restricted definition of the Medical profession of the present day; In the older medical authors, we find the term Pneumonia, applied to the inflammation of every organ, or tissue located in the Chest; Hence it was divided, into a variety of species, according to the seat, degree, and kind, of existing pain = In the nosology of those days, when the substance of the lungs was the seat of inflammation, the disease was called peripneumonia; when seated in the pleura, it was called pleurites; when in the heart; it ~~xxx~~ diaphragm, mediastinum and pericardium, they each received their distinctive appellations =

Since those days, pathalogical anatomy has received a fresh impulse, and with it, such investigations have been pursued, that quite a new era has dawned upon the science = Physicians can now, with almost unerring certainty, detect the seat of any lesion in the thoracic viscera, trace out their extent, define their limits, and predict the favorable, an unfavorable termination. It would be unnecessary for me to add, that I here allude to the wonderful discoveries, made by means of percussion, and mediate and immediate auscultation = These discoveries have been of vast practical importance to the physician; for when the general signs fail him, and seem to leave the character of the disease in doubt, his physical signs will resolve, often, that doubt: upon the knowledge acquired, he can base his conduct so as to lead his case to a favorable issue.

In medical authors, we find there are many varieties of Pneumonia, designated by them,

founded upon the different portions of the lungs, assailed by inflammation, or upon the different constituents of any one portion; also upon the character of fever accompanying it, the general state of the system, and its complications with other diseases. When the inflammation occupies a considerable extent of the lungs, embracing a whole lobe, more or less, or even one entire lung, it is called Lobar Pneumonia. This is the form, to which we refer, when the term of Pneumonia is used, and which form, I propose to consider in this essay, speaking of the other forms, merely, in an incidental manner. When a small portion, or isolated portions of the lungs, are inflamed, it is called Lobular Pneumonia, It is this form which seems to be almost exclusively confined to children, seldom occurring after the fifth or sixth year. (Gerhard) When both lungs are inflamed, it is called double Pneumonia. Vesicular Pneumonia or Vesicular Bronchitis of Rilliet and Barthez

is that form, which affects mainly the air cells= When the inflammation is seated in the cellular tissue, intervening between the different air cells, or lobules, it has been termed Inter-vesicular, or inter-lobular pneumonia. When a large portion of the pleura is implicated, it is called pleuro-pneumonia. The pleura is frequently embraced in this disease, more especially, that portion of the membrane, which is in close contact with the inflamed pulmonary tissue, but it has been deemed unnecessary to designate it, by any particular name=.

Pneumonia may be primary; occuring independently of any modifying causes, and running through its course uninfluenced, except by inflammation itself; Or it may be secondary, which is most frequently the case, being an attendant, or an accidental complication of other diseases. When Pneumonia is complicated, or associated with a feeble or asthen-

ic grade of action, the term of Typhoid Pneumonia is applied; when connected with bilious diseases, it takes the name of Bilious Pneumonia; Acute and Chronic Pneumonia, having reference to its severity and continuance:

From the above array of names, applied to Pneumonia, and its varieties, we can readily perceive, how deeply interesting must be our inquiries into its character: In this climate there is, perhaps, no disease, either single or complicated, that falls so often under the observation of the practical physician

In treating of Pneumonia I shall first speak of its anatomical characters, 2nd of the symptoms, general and physical. 3rd Diagnosis. 4th prognosis, 5th Causes, 6th treatment =

Anatomical Characters.

Common or Lobar Pneumonia is divided, in its acute form, into three well marked stages, each possessing, its own peculiar path-

ological condition = The first stage is known by the names of Congestion, Obstruction or Engorgement; the second stage is called by Laennec, red Hepatization, and by Andral, red softening; more generally by others simply, Hepatization: The third stage is known, by that of purulent infiltration, suppuration, or the yellow softening of Laennec, and the gray softening of Andral, this stage is again subdivided into Abscess =

In the first stage, the pathological condition of the lungs, or the affected portion, is found injected with various shades of red, varying from a bright rose tint, to a deep purple, with crepitus in some degree, exuding when incised, a bloody, turbid, and somewhat frothy serum. Upon pressure it retains the impression of the finger, like an œdematous limb = Its density is increased, but still it will float in water: The cells though obstructed by extravasation, still contain air =

The second stage (Hepatization) is always much better characterized than the first.

In this stage, the blood accumulates in the lungs, and becoming, as it were, incorporated with its tissues, gives it an unusual degree of density, so much so, that it will sink in water; its cohesion is, at the same time, much diminished: The colour presented, is a deep red, reddish brown, or a grayish red: Crepitation is no longer found; it is friable upon pressure, which will force from it a reddish liquid, which is thicker, less frothy, and in smaller quantity, than in the first stage. The softening of the lung is so great, that it can be easily torn; and the finger can be passed through, without resistance. When cut into, it bears a striking resemblance to liver, and on this account, the lung is said to be hepatized = If the cut surface is held between the eye, and the light, no cellular appearance is observed; instead of which, there is found a numberless minute granules. This appear-

ance, however, does not always obtain.
In the third or suppurating stage, the tissue of the lungs is marbled with yellow, contrasting strongly, with the red colour of the second stage. The whole inflamed portion, presents externally, and within, a yellow, or grayish appearance, and when cut into, a yellow purulent matter is found, sometimes tinged with blood. The bronchial tubes are greatly inflamed, and become impervious to the air. The lung is softer than in the second stage, so that if pressed between the fingers, it is almost wholly resolved into purulent matter. The lung still preserves its granular aspect, when cut or torn; but sometimes, it exhibits a uniform surface, as in the red hepatization. The subdivision made of this stage into that of abscess, is so exceedingly rare in adults, that it will demand but little attention. We are informed by Chomel, that during an experience of 28 years, he has seen

only three cases, Laennec says, out of several hundreds he had met with only five cases. Tuberculous bronchia, and enlarged bronchial tubes, have no doubt been mistaken for abscess. That abscesses do frequently occur, will not be denied: but they are more common in those cases, which recover: Should hepatization occur in a large portion of the lung, death would ensue, before the tissue would break down to form an abscess: but when a small portion only is affected, there would be time for this result; and hence recoveries would not unfrequently take place. When an abscess does take place, it presents, very nearly, the same appearance, as when found in any other portion of the cellular tissue, and is surrounded by the false membrane.

Symptoms

In treating of the symptoms, I shall divide them into general and physical, and first of

The General Signs.

Common or Lobar Pneumonia, is frequently

ushered in, like all other Phlegmasia, attacking the Thoracic viscera = For some days, the patient feels a general uneasiness, lassitude, loss of appetite, with more or less febrile commotion. But in a majority of cases, its commencement is marked by a chill or shivering, more or less decided, followed by increased heat and frequency of pulse soon after a stitch or pain in the side, difficult breathing, with Cough, appears. Sometimes the disease is more insidious in its approach, being preceded by catarrhal symptoms, or succeeding to Bronchitis. The cough is at first, dry, but is soon attended with a peculiar expectoration. The Dyspnœa is sometimes slight in the commencement, sometimes severe. Then the usual symptoms of Pneumonia, may be said, to be pain more or less severe, in one or both sides of the Chest, Dyspnœa, cough, a peculiar expectoration, and fever. <u>Pain</u> in pneumonia is subject to great diversities both as regards, its severity, con-

tancy, location, and time of occurrence. In the beginning, the pain is very severe, much aggravated by cough, if present, or a full inspiration, sudden change of posture, pressure on the intercostal spaces, or by percussion on that part: It is most commonly felt on a level with, or a little below one or the other breast, sometimes occupying both sides, sometimes only one side, at other times, the patient refers the pain, to the sternum or back of the chest. The acute pain, in Pneumonia, is generally supposed to exist, in those cases, and indeed they are by far the most numerous, in which the pleura, covering the affected lung is inflamed: acute pain is not an invariable attendant in pneumonia, indeed it is sometimes entirely absent. In some cases, there is a dull aching sensation or feeling of soreness, a sense of weight, fullness, or heat, sometimes referred to the epigastrium, at other times to

the anterior part of the chest. The decubitus is various. The patient is found sometimes lying upon his back with his head and shoulders elevated, at other times on his breast, In some cases he finds more ease in an erect posture, sometimes he lies on the side affected, at other times he is more comfortable on the opposite side = Pain must not be looked upon as an universal concomitant of Pneumonia, and its absence, has no doubt, unfrequently, led into error, as regards the true nature of the disease - With many, a pain in the side is considered essential to the disease; and unless located in the left side, it is supposed that pneumonia does not exist - This view must be looked upon as a vulgar error, for it is now well ascertained, without the least cavil, that the right side is more frequently involved than the left. Laennec declares the right lung is most frequently affected, Morgagni concurs in opinion with him

Andral asserts, that out of two hundred and fifty four cases of pneumonia, the right lung was affected in one hundred and twenty one, the left in fifty one, and both in twenty five. Pelletan, states that the right lung is more frequently affected in the proportion of five to two. M Lombard declares, that in 968 cases observed by himself, Andral, and Chomel, 413 were confined to the right lung, 260 limited to the left, and 195 affecting both — Dr Gerhard and others have proved, that the difference of liability of the two lungs, is still greater in young children — In young children also the pain is often very obscure, so that it cannot be recognized, or indeed is entirely wanting. Breathing. Difficulty of breathing is generally present, sometimes it is very urgent, rendering it difficult for the patient to speak, at other times very slight, so as to escape notice. In some cases

even, when a small portion of the lung is inflamed, there is great embarrassment in the respiratory process. In others, a large portion will be intensely inflamed, and the dyspnoea will be slight = The breathing is always more or less hurried or increased. This symptom is valuable, as indicating not only the disease but its extent and severity = It is often increased, from 18 to 20, its standard in health, to 30. 40. 50 or even more. Its frequency being just in proportion to the extent of lung, which is inflamed = Cough is the next most prominent symptom. It is almost always present, but it possesses no peculiar character, from which, we can derive much practical advantage = In some cases it is present at the onset, at other times it is absent, even for some days in very severe cases. A paroxysmal cough is ~~very~~ seldom found, and its severity and frequency, is not always in the same ratio of the intensity and extent of the inflam

mation. In the early ~~stage~~ stage of the disease, ~~the~~ the cough is usually dry, and rarely attended with expectoration, but in a short time, in one, two, or three days, an expectoration of sputa appears, which is so peculiar in its character, as to constitute one of the most certain general signs of the disease. This sputum is transparent, tawny or rust colour, uniting in a vessel containing it into a jelly-like, trembling mass. The tenacity is so great, that a vessel containing it, may be turned bottom upwards, and it will still adhere, being difficult, even, to detach it from the vessel. This sputum is looked upon by the profession as characteristic of pneumonia, and may be relied upon even when the physical signs fail to point it out. The sputum in Pneumonia is blood, intimately mixed, with a viscid semitransparent matter. As the disease advances, the secretion increases; but in pure pneumonia is seldom very copious.

In the second stage, the sputa acquire a remarkable degree of viscidity, so viscid, that it is exceedingly difficult to shake it from the vessel containing it= If the inflammation is subsiding, the sputa become less tenacious, its red or yellow colour diminishes, and assumes more and more the character of catarrhal expectoration, But if the contrary takes place, the sputa will continue to present the first colour & appearance to the end. There is, commonly, in this case less expectoration, although the secretion is not diminished, but owing to the great tenacity, conjoined to the debility of the patient, it is not excreted; thus, by its accumulation overwhelming the infeebled lung and proving fatal= In the advanced stages, the expectoration sometimes consists of a fluid of the consistence of gum water, more or less tinged with blood, assuming towards the termination, the appearance of liquorice dissolved in water; or plum juice. Perfect pus is, occasionally

excretia during the third stage = Gangrene is supposed to be a very rare consequence of Pneumonia; when occurring it is indicated by a fetid odour of the expectoration, and by its becoming of a greenish, red or a dirty gray colour =

<u>Fever</u> next claims our attention, for in Pneumonia, it is always, in severe cases, present, though varying in degree and intensity. In some cases the fever is so mild as almost not to be regarded, at other times very high - In some severe cases the fever, with increased respiration, constitutes the only obvious affection. It is often accompanied by flushed cheeks, the degree of flushing depending in a great measure upon the severity of the attack. In the latter stages we find the cheeks of a purple colour, depending upon a want of arterialization of the blood. Pain in the head, especially about the forehead, sometimes, this is the only symptom present for

the first few days; delirium is often premo-
The fever has a remitting character very often
attended by exacerbation in the evening,
accompanied, usually, by an aggravation of
its other attendant symptoms = The pulse
is various in pneumonia, and generally
but little confidence can be placed in it,
as regards treatment, only so far as it will
give warning of the degree of strength of the
patient and the propriety of further de-
pletion. It is sometimes full, strong, and
only moderately hurried, in other cases
from the accession of the disease, very fre-
quent, being smaller and not so strong =
In the Adult, it will sometimes reach one
hundred and forty. The skin is usu-
ally, hot and dry, though occasionally
moist, The urine scanty and high coloured
Thirst and loss of appetite, are almost uni-
versal. The tongue is generally moist and
coated with a white or yellowish white
fur; but it is sometimes clammy or
dry and red. Vomiting and diarrhœa are

occasional symptoms, the latter more especially in the advanced stage; but both are accidental. Blood drawn from the arm is almost always sizzy, and often strongly cupped.

Having thus treated of the general symptoms of the disease, I shall now consider its Physical Signs, for without them, in many cases it would be exceedingly perplexing, to ascertain the true character of the disease, invading the thoracic viscera. For in some cases, pneumonia, is so obscure, that the general symptoms entirely fail us in diagnosis: and occasionally even the characteristic sputa, may be absent. But thanks to the discoveries of percussion, and auscultation, aided by them and conjoined with the general symptoms, the most of these cases can be recognized; unless the inflammation is so deeply seated in the interior of the lungs, and so surrounded by healthy structure, as to make the signs not cognizable by the senses, I

In the stage of engorgement, we can gain but little information from percussion. It is upon auscultation, we must depend, to gather evidence sufficient to form a diagnosis. By this, in the first stage of pneumonia, a peculiar crackling sound is heard, called by Laennec, crepitant Rhonchus, by Williams, minute crepitation or the Crackling of pneumonia. This minute crepitation is heard mingled with the ordinary vesicular breathing, and is more distinctly audible, as the inflammation occupies the surface of the lung. As the disease advances, the natural vesicular breathing is lost, and is entirely superseded by the crepitous rhonchus. Dr Gerhard, asserts that the crepitant rhonchus is not the earliest sign in a great number of cases. Instead of which he thinks, that the earliest signs, are a sound more or less rude, or rough, and at the same time imperfectly vesicular in the part of the lung inflamed, at the same time, there is audible, a loud and puerile respiration, surrounding, as it were the inflamed

portion, and more or less intermixed with the rude respiration. The Crepitus Rhonchus is rarely developed in its greatest perfection, until a portion of the lung has passed into its second stage. A full inspiration will often develope the crepitus, when not perceptible in ordinary breathing. When the crackling sounds predominate over the vesicular murmur, it denotes the onward progress of pneumonia, and that it is passing from the first to the second stage.

The second stage (Hepatization).

The altered condition of the organ in this stage, gives rise to altered sounds. A wheezing sound is now heard like that produced by blowing through a quill. Little gusts of air are puffed in and out, most distinct at the termination of a slight cough or hem (Williams). This is the sound, to which the term Bronchial Respiration is given, and is one of the characteristic signs of hepatization: This sound is heard when the patient breathes: When he speaks, his voice

is heard, much more resonant than in health
Much more resonant than in the corresponding spot, on the opposite side of the chest. This is the bronchial voice or bronchophony, which is always proportioned to the loudness of the bronchial respiration. In a comparatively few cases, no sound is heard during the breathing, more than the one produced by the rise and fall of the parietes of the chest; When the lower portion of the lung is alone inflamed, or the inflammation is merely superficial or partial, they may not be heard at all. Also, when hepatization is so complete as to prevent the expansion of the affected side, it may be absent, but Bronchophony may remain. But usually, however, the bronchial respiration is distinctly audible. Another important sign in hepatization, is the greater vibration of the walls of the chest, when the patient coughs or speaks, felt by the hand laid on the chest —
Percussion in this stage gives us perfect dullness: the degree of which, depends

much upon the extent of hepatized lung. If the hepatized part comes close up to the ribs, the sound from percussion will be flat, or dead. "With all these symptoms, you will hear the puerile respiration in the sound lung, or in those parts of the diseased lung that are healthy. This" says Williams "is a confirming symptom, that a part of the breathing apparatus, is spoiled, and that the remaining part is endeavouring to compensate for its deficiency".

"The third stage, or gray hepatization, cannot be distinguished by the physical signs, so long as the pus remains diffused in the parenchyma of the lung. The percussion is flat and dull as it is throughout the whole of the second stage. The bronchial respiration ceases, or becomes excessively feeble; while every powerful inspiration, or even a slight cough, will give rise to a loose mucous rhoncus, from the quantity, of purulent liquor contained in the larger bronchial tubes. Bronchophony diminishes

in the same proportion, as the bronchial respiration = "When the disease declines, after having reached the third stage, the mucous rhonchus gradually ceases, and the vesicular murmur returns. If it has not advanced farther than the second stage, the bronchial respiration is gradually replaced by a loose, crepitant rhonchus, which subsides as the vesicular murmur returns." "When the hepatization has been very complete, the respiration does not resume its natural character, immediately after the disease is cured, but remains for a time rough, and the vesicular murmur is in a great degree lost. The slow return of the vesicular murmur is to be explained by the indurated condition of the lung, discovered in persons, who have recovered from pneumonia, and die soon after, from some other disease" (Gerhard)

Diagnosis

Cases of bronchitis, extending into the minute ramification of the bronchia, may present a great resemblance to pneumonia

But in bronchitis, the sensations are more those of soreness, than severe pain, and are usually seated in the anterior and upper part of the chest, behind and in the vicinity of the sternum. The expectoration, though tinged with blood, never has the extremely viscid and rusty colour of the sputa of pneumonia, and when it once begins, is much more copious. No true crepitant rale is heard, but instead of this, the dry and mucous rales; there is no bronchial respiration or resonance, and very seldom a permanent want of respiratory murmur in any part of the chest, and finally there is no considerable dullness on percussion; "But, not unfrequently, the two diseases are combined, and, when the pneumonia is in the centre of the lungs, or disseminated it is difficult to distinguish between them" (Wood)

Pulmonary Œdema may be mistaken for pneumonia, but it differs from it, by its febrile symptoms, the local pain, which attends it, and the peculiar very viscid rusty or bloody

Sputum, strikingly different from that of pneumonia. It might be confounded with pleurisy. In pneumonia the pain is moderate and dull, when uncomplicated; in pleurisy the pain is sharp and severe, and usually located in one spot. The characteristic viscid and rusty expectoration of pneumonia is not present in pleurisy; in place of which, we find the sputa of pleurisy mucous and transparent, or whitish, or simply streaked with blood. The crepitant rale of pneumonia is wanting in pleurisy, while we find ægophony and the friction sound, these being absent in pneumonia. The bronchial respiration, is much more extensive, in pneumonia, and heard over remoter parts of the chest, than in pleurisy with much effusion. The flatness observed in percussion of pleurisy, often changes with the position of the patient, not so in pneumonia. The vocal vibration in pleurisy, is not felt; in pneumonia, it is very striking. The flatness or bulging of the intercostal spaces, distension of the chest, a displacement of the

stomach, heart, liver, &c., which occur in pleurisy, are wholly wanting in pneumonia.

Pneumonia terminating in abscess, might be mistaken for phthisis, but the situation of the abscess, and the previous signs of pneumonia, general and physical, such as the peculiar sputa, the crepitant rhonchus, followed by bronchial respiration would always prove sufficiently diagnostic.

Prognosis

In a great majority of cases, this is favorable, especially, when it ~~in~~ occurs in persons whose constitutions are unimpaired, when uncomplicated, and occupying only a portion of a single lung. In the prognosis we must be guided by the age, previous health of the patient and the epidemic constitution of the air. In old persons, especially those past fifty years of age, it is one of the most fatal of all diseases, it then generally takes on an asthenic grade of action. In children below the age of six years, it is also very fatal. From the ages of six to

the forty fifth year, when the treatment is commenced in time, it is seldom fatal = When complicated with epidemic diseases, or when occurring in broken down and debilitated subjects, our prognosis must be unfavourable - When the whole of the lung is affected, or in double pneumonia, the danger is always greater - Inflammation of the upper lobes are always more dangerous, than when seated in the lower lobe. The respiration is an important prognostic sign - The pulse is of little value as a sign = The pulse and respiration vera together, will form good prognostic signs = If the pulse becomes slower, and at the same time, the respiration resumes its natural standard, it is a favourable omen = But if the pulse sinks, and the respiration becomes more frequent, the prognosis is unfavourable. The respiration indicates, in severe cases, the gravity of the affection, for in proportion as the lung becomes solidified, the respiration will become more rapid, in order to supply the deficiency of air.

Delirium is an unfavourable sign. Great viscidity of the sputa, and a deep rusty colour, shows an intensity of inflammation; the return to a catarrhal condition is a favourable sign - Watery and brownish sputa, are of bad augury, leading us to suspect suppuration of the lungs -

Causes

Many cases of this disease occur, that cannot be traced to any obvious cause = Cold seems to be the most general direct cause, Cold is estimated as the cause of seven sixths of the cases that occur, and this proportion seems to be acquiesced in, by a majority of writers - Sudden exposure to Cold, when perspiring is apt to produce it - Long continued application of Cold, more especially to the lower extremities; breathing for a long time in an atmosphere of low temperature, and then suddenly exchanging it for one of higher temperature. Direct violence, and excessive use of the voice, running, dancing or any other exercise, which will hurry the

Circulation, or produce an accumulation of blood in the lungs. Strong emotions of the mind, suppressed habitual discharges, and repelled cutaneous eruptions, may be classed among its causes. Pneumonia frequently occurs as an accidental symptom in some diseases, as bronchitis, measles and pertussis &c. Epidemic influence contributes to produce it, operating as a predisposing cause, thus rendering slight occasional causes availing, in producing the disease. In some persons, there is a peculiar tendency to this disease, originating without any assignable cause. Men are more liable to its attacks, than women being, says Bouillaud, in the proportion of 10 to 1. The period at which, it most frequently occurs, is from 20 to 35. Pelletan, says "that Pneumonia, is twice as frequent, between the ages of 17 to 37 than at any other period of life".

Treatment.

There is, perhaps, no disease in which there is such a perfect coincidence of opinion

as regards the treatment, as in common or Lobar pneumonia. Bloodletting, Tartarized antimony, and Mercury, are the chief remedies to be employed in combating the disease.

There is no disease, that will bear the loss of blood better than pneumonia, and it is, certainly, one of the most efficient remedies not only to relieve the inflammation, but to procure rest for the lungs, as much as possible, by diminishing the amount of blood, traversing its now diseased structure, and thus relieving it of a portion of its duty. In the quantity of blood, necessary to produce this effect, the state of the individual, as regards vigor of body, the stage of the disease, and the pulse, must be our guide: In the early stage of the disease, a free and prompt bleeding often arrests it.

The position of the patient should be attended to, in bleeding. He should be in an upright posture, and the orifice should be large, and the blood should be permitted to flow until the pulse becomes softer, the sense of constriction

is abated, or dyspnœa relieved, or until the occurrence of nausea, or faintness = Should the bleeding not prove sufficient to relieve, a repetition of it, becomes necessary, and the operation should be repeated every six, or twenty four hours, unless the pulse should forbid, and the inflammatory symptoms are not reduced. In cases of Congestion, the pulse would be an uncertain guide, for blood may be drawn in such cases with benefit, when the pulse would seem to counter-indicate it = In such cases, if the pulse rise during the abstraction of blood, it must be persisted in, but if it becomes small, and more depressed, then this is a pulse of debility, and from bloodletting, no benefit of course results, but injury. When general bleeding is inadmissible, much benefit is sometimes derivable from cupping.

The part to which, they should be applied, must be determined by the situation of the inflamed lung, for this purpose auscultation must be called into re-

quisition = After bloodletting, a full purgative dose of Calomel, or Calomel in combination with some active cathartic is required = During the whole course of the disease, the bowels must be excited to action, at least once in 24 hours by mild laxatives, but sometimes enemata will be found preferable = After premising these remedies, then Tartar Emetic may be had recourse to, repeating it at such intervals as the circumstances of the case would seem to demand = The dose must be determined in a great measure by the condition of the stomach. Some physicians advise very large doses, from one to even three drachms in 24 hours = The larger number, however, I believe, are satisfied with the exhibition of a dose, from the twelfth, to the fourth, or even third, of a grain every hour, or two hours during the day, gradually increasing the dose, as the stomach comes to tolerate the article, to one, or two grains, restraining its emetic

or purgative influence by small doses of Opium; with Tartar Emetic, if the skin is hot and dry, the neutral mixture will be advisable; and to restrain vomiting, the Effervescing Mixture will be found beneficial = In Twenty or thirty six hours, marked benefit will result from this treatment. Should however, this anticipated benefit, be not experienced, and the disease is about to pass, or has already merged, into hepatization, then Mercury should be resorted to singly, or in combination with Opium and Ipecacuanha, until mercurial impression is produced, taking care to avoid profuse salivation, on the contrary to suspend its use immediately we find the Gums becoming tender = It may sometimes be proper to diminish the dose only, so as to sustain its effects, until all symptoms of the disease are subdued. The proportion of Calomel, Ipecac. and Opium must be determined by the more or less threatening aspect of the ~~disease~~ disease, as indi-

cated by the physical and general signs.
Should the Calomel distress the bowels, the pil. Hydrargyri. may be substituted. Cataplasms may also be used, in conjunction with this treatment, with advantage, as an addition to which mustard in small quantities can be added - A Blister is also a valuable auxiliary, and may be applied with great advantage = A succession of blisters may become necessary. In their application, a due regard must be paid to the state of the system, for if too early applied, or if applied before the system is reduced to what has been called the "Blistering point" they will do harm =
The antimonial plan of treatment is not however, without its disadvantages; It will sometimes produce great depression; at other times, gastro-intestinal inflammation follows its use - Should gastro-intestinal inflammation be an accompaniment of pneumonia, it is totally unsuitable. Some Physicians speak in very disparaging terms

of the antimonial treatment, as having in their hands produced disastrous consequences; but the remedy will not be rejected because of its injudicious administration in some instances; and in others, when ever properly administered, it has proved injurious=
To the discrimination of the physician must be entrusted the use of this, as of all other articles of the Materia Medica. That it is a valuable medicine, and a safe adjuvant to the lancet, is an undeniable fact, and should, and will be, used unless contraindicated=

When the disease is in its declining stage, some expectorants medicines will be found beneficial, Syrup of Senega, or squill, with Tartar Emetic; or with some preparation of opium. When in the advanced stage of pneumonia, the strength is found to fail, recourse must be had to stimulants. The most useful of which, is Carbonate of Amononia in suitable doses, from two, to five, or ten grains every two hours, Wine whey, Sulphate of Quinine,

An
Inaugural Dissertation
On
Phlegmatia Dolens
Submitted to the examination
of the
Provost, Regents, and Faculty of Physic
of the
University of Maryland
for the
Degree of the Doctor of Medicine
By
Geo. W. Webster
Maryland.

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Phlegmatia Dolens.

This disease has received many appellations, such as Milk leg, Femoral Phlebitis, Swelled leg &c. and is an affection incident to Lying in Women — more particularly to those possessing a Lymphatic temperament and of delicate constitutions or to those, who have suffered much from Uterine troubles during or directly following the period of Uterine Gestation

It is most apt to occur, between the second or third week after delivery, sometimes on the third or fourth day, and again, sometimes not until several weeks have elapsed. It consists mainly in the swelling of one or of both legs shortly after delivery and is accompanied with much pain and tenderness. In most cases, the disease is limited to one side

and the left seems to be the most liable to its influence, both however may be similarly diseased, the one following the other in succession, and equally painful in their character.

The most prominent causes of this painful and distressing affection are the effects of cold or sudden changes of temperature, deranging particularly the Uterine function, resulting in irritation and enlargement of the organ and by its descent and pressure upon the nerves, lymphatics and blood vessels, appertaining to the pelvic region, the circulation of the Fetus at term becomes obstructed, and inflammation of the vessel particularly its minute branches results, and finally develops the character peculiar to this disease.

The channel of the circulation becomes interrupted. Serum is effused into the cellular tissue, giving rise to extreme tension and tenderness of the surface.

and consequent pain.

The Symptoms of this painful Phlegmatia are often very obscure, but the most prominent are all that I can notice in this dissertation. Viz. The patient complains of pain or uneasiness in the corresponding part of the Abdomen and extending around the brim of the Pelvis, without much or any degree of tenderness in that region. She becomes exceedingly irritable and her spirits are much depressed and complains of being weak and prostrated and apprehensive of some serious and direful calamity, upon suppurse, the pulse becomes weak and rapid, the digestive function interrupted by nausea, a coated tongue and constant thirst, and fever ——

Before swelling takes place, however, a certain character of symptoms may be noted which are these and they will most generally determine the nature of the evil. Before any swelling of the

limb has taken place, we observe a peculiar sensation of uneasiness, and often amounting to pain and soreness along the course of the lymphatics of the limb, extending even from the groin, to the heel, this continues until the limb becomes exceedingly painful in consequence of the extreme distention, and which when particularly examined will present a pale and shining appearance; this condition or stage of the disease takes place generally within twenty four hours after the pain is experienced in the limb, which increases as the disease advances, intimating to a very serious extent the healthy acts of the general system. Occasionally this disease does not manifest itself in the thigh while it becomes seated in the two opposite extremities of the limb, the lower portion of the leg and the fold of the groin — Sometimes it appears under the form of a simple stiffness, a species of cramp, at these times the patient is tormented by severe lancinating pains, which follow the course of the vessels, and drawn them

into knots, and rendering them painful upon pressure.

This painful malady, therefore, so peculiar to newly delivered females, although it may be characterized by certain symptoms, yet becomes often so complicated as to render a diagnosis exceedingly difficult. It may resemble, to a certain extent, Rheumatism accompanied with much swelling and local inflammation; again, it may be simply Neuralgia, unaccompanied by an increase of heat or size of the limb, but when there exists in connection with these symptoms, Uterine irritation, together with tenderness upon pressure of the lateral region, and enlargement of the inguinal glands, a correct conclusion can be safely drawn —

The inguinal glands, becoming swollen and indurated, often suppurate, and sometimes results in mortification, and a consequent useless condition of the limb — the skin upon the swollen limb will pit

upon pressure (unless the distention be very great which most generally occurs) upon the subsidence of the inflamatory stage which lasts from ten days to a fort night — and which in connection with the other symptoms attending this unfortunate affection, (particularly when of a well marked case) the health, and strength of the female becomes seriously worn down and exhausted although it seldom when judiciously treated proves fatal. —

It ~~side~~ is not difficult generally to diagnose this disease as it is not in itself deficient, we must form our opinion at the time of its occurrence and from certain causes which lead to ~~it~~ or may give rise to it. As I have before stated, that it follows parturition and particularly those who have a lymphatic temperament. It may be known from the discription and symptoms which I have enumerated. Viz. when we find pain extending down the thigh and leg along the course of the lymphatic vessels, also

femoral vein, continuing its course even to the heel of the foot, giving rise to swelling, becoming hot and unguilding and soon or later accompanied with febrile excitement resulting from the irritation produced by the cord like character of the femoral vein and its accompanying indurated glands. Viewing these states of the parts to that exist we may safely conclude the affection to be styled Phlegmatia Alba Dolens or Milk leg.

Although the prognosis of this affection may be favourable, and as it seldom proves fatal, yet there are cases of an aggravated character particularly in those of robust and plethoric habits where the congestion becomes extreme and the inflammation results in disorganization of the parts and finally proves destructive of life in which event an examination of the limb together with the Pelvic viscera will present peculiar Pathological features

The surface of the limb presenting

as I have stated a Pale White & Shining appearance and exceedingly Œdematous, when cut into, the cellular tissue is found filled with serum, the Lymphatic Glands enlarged and indurated and altered in their structure and even destroyed by the suppurative process, depositing Pus in various parts of the limb dissecting as it were the cellular structure and dissecting out the muscles in passing along their sheaths to accumulate at some most dependent portion of the limb. the veins are usually obliterated particularly the Femoral vein which we find degenerated into a fibrous cord, even tough and hard to the touch. It appears from the peculiarity of this disease occurring after child birth that the cause or the irritable condition of the parts within the pelvis, under peculiar circumstances, devol. of the train of symptoms as stated. the head of the fœtus in its passage through the pelvis necessarily producing pressure upon the Lymphatic glands or its trunks might un-

the peculiar conditions of the patient give rise to engorgement of the whole Lymphatic System of the affected limb, producing an inflamed condition of the different conglobate glands through which the chief Lymphatic vessels have to pass on their way from the foot affected to the Thoracic duct. This inflammation may occur first in the glands, or in the principal lymphatic trunks and thence to the glands, and to the venous vessels affecting their serous surfaces, resulting in adhesive inflammation and consequently of a stoppage of the circulation of the large venous vessels which however is not sudden otherwise the disease would present different features, such as intense inflammation and heat and finally entire destruction of the limb. This engorgement of the Lymphatic System takes place first in the pelvic region, rapidly involving all its ducts, and by their inability to transmit the fluid they are contained, its vessels become distended, effusion results, irritation inflammation and adhesion involve finally the large trunks or blood vessels of the limb

causing the blood to be retarded in its return to the general circulation, coagulae form, and if Nature should prove unable to find an outlet for this accumulation of fluid - say venous blood, (which is often the case,) the vessel becomes closed entirely, the coagulae are gradually absorbed, and the vessel itself presents an impervious cord, fibrinous and rigid in its appearance.

In examining the subject further and analysing the symptoms as they present themselves, we come to the conclusion from the evidences after death, that the disease primarily is of Lymphatic origin. - The uneasiness, and <u>often</u> pain which the patient complains of, about the <u>Round</u> ligament, in the groin, and down the inside of the thigh - preceding the existence of swelling or other affection of the limb, shows conclusively the priority of the disease to be in the glands and their communicating trunks, causing the white fluid which they convey, to be not only delayed in its passage, but to be effused

into the circumjacent cellular tissue.

The discription which I have given of this disease, I may say in a cursory manner, in connection with its Symptoms and Pathologic al influences. I would state the Prognosis to be most generally favorable, as death seldom occurs except in extreme cases, where the patient in consequence of great Robustness and Plethora, resisting the most active antiphlogistic course, or where the constitution had been worn down by previous disease of a hectic nature, in both of which varieties the most serious consequences might be apprehended. I cannot say that the disease is of frequent occurrence, but is confined principally to those females of a delicate and Lymphatic Temperament.

The treatment of this painful malady, will in the onset require the most prompt and decisive measures, and most generally of an antiphlogistic character. Should the inflammatory condition be

very great, the Cancer must be promptly used. Mor. re. Nata., followed by cups or leeches, if necessary to reduce the inflammation both generally and locally. the leeches should be applied particularly about the groin and along the track of the principal Lymphatic trunks, and when applied generally to the limb, they should not be applied too close together otherwise they are apt to produce troublesome sores. During the active stage Purgatives should be freely resorted to. those of the Saline are preferable. such as the Sulph. Magnesia. The calcined Magnesia in combination with the Vinum Colchici, after general and local depletion have been resorted to, will often prove essentially Sufficient.

The effects of Sedatives in this affection are required not only to control the action of the heart but by their relaxing influence to promote general Diaphoresis. Antimony, in the

form of Tartrate of Antimony and Potash in doses as large as the Stomach will bear. I think is preferable, particularly when combined with the Nitrate of Potash. — When the System has been sufficiently depleted and the inflamatory action subdued, Narcotics may be properly and safely given to allay the excessive pain and general irritability which usually attends this disease, of this class of Remedies. Opium is preferred and may be given in combination with the Nitrate of Potash and Ipecacuanha, or the Doves powder in combination with Nit. Potash

These Sedatives and Anodynes should be continued as long as the condition of the patient should seem to require, Also the repeated use of Evacuations, Laxatives and alteratives the most useful of which Calomel in small and repeated doses.

In pursuing this general Treatment the condition of the bowels must be carefully attended to, and the pain and distress of the patient eased by the constant and persevering use of Fomentations

such as flannels wrung out of hot water and vinegar, a strong solution of the Muriate of Ammonia in equal parts of vinegar and water may also be resorted to. After the pain, swelling and heat of the limb begin to abate, moderately stimulating lotions, such as a Camphorated Mixture, diluted as the case may require with Brandy or Alcohol will prove serviceable. Blisters have been recommended, but I think their utility doubtful except in the chronic stage of the disease, when we find the glands enlarged and indurated, the tone of the Lymphatic vessels debilitated and in want of tonic action, or when the joints are tender resulting from a sub-acute inflamed condition of their serous surfaces, in either of which cases they may I think be resorted to with advantage. Again after the swelling, heat and pain have subsided, Poultices may be used with advantage; but in the early stage I think they would prove prejudicial —

In the chronic stage Flesh may be absorbed to, or a roller bandage saturated with salt and dried before applied.
During the febrile stage of this disease the diet should be of the most simple and lowest kind, and during convalescence it should be digestible and nourishing and where the patient proves much debilitated, Lowin (the most gentle) should be administered, and when sufficiently restored the advantages of pure air and exercise by gestation will prove highly serviceable.

Oil of Turpentine in large doses, then conjoined with a nutritious diet, will often prove successful in the most unpropitious cases.
If gangrene occurs, Chloride of lime, Opium, Quinine and the mineral acids must be employed = I deem it unnecessary to give a list of the other remedies resorted to, in this disease in its different stages, or even when consociated in individuals liable to other diseases, as the treatment must be modified according to the state, circumstances, or condition of the patient, when attacked =

The Diet, and other points of management in pneumonia, must be such, as the state of the patient, at different periods, may require =
In the early stage, mucilaginous, or farinaceous drinks must be given, as the disease advances, and when the fever has been subdued a more liberal diet should be given, taking care on the one hand not to allow a too liberal diet; and on the other hand, not to restrict it so much, as to add to the danger of the disease, by preventing proper supplies

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for the nourishment of the body and sustentation of the powers of life.

This gentlemen closes my inaugural dissertation. I now with proper respect submit it to your impartial investigation, hoping that you may show lenity towards it and also towards your humble servant when he appears before your honourable body in the green-room, and that the old University may extend her maternal influence over me and I receive her as my Alma Mater.